



# Carlos Calderón Córdova

**Scientific Researcher | Associate Professor | Consultant**  
**Industrial Digital Transformation | Technology Transfer**

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## Executive Summary

I am a **Scientific Researcher**, **University Professor**, **Consultant**, and **Executive**, with expertise in Industrial Digital Transformation, Industry 4.0, Robotics, Automatic Control, and Technology Transfer from Academy to Industry. I hold a Bachelor's degree in Electronics and Telecommunications Engineering, a Master's in Electro-Mechanics, and a Master's in Industry 4.0.

As a **Scientific Researcher**, I have participated in **29 Research, Development, and Innovation Projects**, equivalent to a period of **20+ years**, and an executed budget of **\$1.9 Million**. Among the results of my research work, I am the author of **39 Scientific Publications Indexed** in Scopus / Web of Science, and I have also generated **9 International Patent Applications**. I have given **Keynote Conferences and Presentations** at **47** national and international Scientific Events, held in Ecuador, Spain, Chile, United States, Portugal, among others.

As a **University Professor**, I have **18+ years** of experience teaching courses in **Engineering** and **Master's Programs**, such as Industrial Robotics, Automatic Control, Instrumentation, Automation Systems, Electronic Systems, among others. I have also been the **Director** of **47** undergraduate and Postgraduate **Degree Projects**. In postgraduate programs, I have collaborated with five Universities: UTPL, UTA, ESPOCH, UTMACH, and UESalvador.

As an **Executive** and **Directive**, I have **12 years** of experience in **University Management** related to Research and Innovation. At UTPL, I am the **Director** of the [CONSYS](#) Research Group, and the **Coordinator** of the [LERAP](#) Prototyping and Innovation Laboratory, I am also a member of the [IEEE Industry Engagement Committee](#) for Latin America. In addition, I have **Directed** 10 R&D+i Projects over 12.6 years. As external positions to the Academy, I was **President** of the [IEEE Robotics and Automation Society](#) Ecuador (2023), besides I was **Chair/President** of IEEE [SIGHT](#) Ecuador (2020-2021), and the **Co-founder** and the **Executive President** of the technology-based company [KRADAC](#) (2010-2021), with approximate sales of \$1 Million per year.

As a **Consultant**, I have generated and transferred technology and knowledge to the Industrial and Government Sectors. I have worked with the **Technology industry**, Food industry, National Defense and Security, among others. **10+** transfer processes **Academy-Industry** were carried out.

I have received **15 Honors and Awards**, such as “Best Academic Inventor” National Award, awarded by *CEDIA* in 2020, 2022, and 2024; “Trajectory of Young Professionals” National Recognition, awarded by *IEEE Ecuador* in 2021; “IEEE Senior Member” International Recognition, awarded by *IEEE* in USA-2020; “Ecuador Innova” Honor, awarded by *Vice Presidency of the Republic of Ecuador* in 2014, among others.

My Academic Profile:



@KarlosKalderonK

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# 1. Education

- **Doctoral Program, Design, Manufacturing and Management of Industrial Projects**, Valencia Polytechnic University, (2024 - Present).
- Master's Degree, **Master in Electro-Mechanical Engineering**, National University of Loja, Ecuador, M.S. Thesis: "*Design and implementation of an architecture and methodology applied to remote monitoring of weather variables*", Graduated in Aug. 2017.
- Master's Degree, **Master in Industry 4.0**, International University of La Rioja, Spain, M.S. Thesis: "*Technological architecture and methodology for the Digital Transformation of the production process of a Meat Food Industry*", (final phase).
- Bachelor's Degree, **Electronics and Telecommunications Engineer**, Magna Cum Laude, Universidad Técnica Particular de Loja (UTPL), Ecuador, B.S. Project: "*Control and automation System for Concrete dosing processes based on National Instruments technology*", Graduated in Dec. 2006.

## Training and Specializations

### Featured Training:

- **Robotics applied to Education.**  
*University of South Florida, 2014, United States.*
- **Knowledge Management for Science, Technology and Innovation.**  
*Ecuadorian Corporation for the Development of Research and the Academy (CEDIA), 2020, Ecuador.*
- **Technology Transfer: From research to the market.**  
*Pontifical Catholic University of Chile, 2020, Chile.*
- **Digital Transformation of Business, in Industry 4.0**  
*Ecuadorian Corporation for the Development of Research and the Academy (CEDIA), 2022, Ecuador.*
- **Certification in Advanced Innovation**  
*Ecuadorian Corporation for the Development of Research and the Academy (CEDIA), 2022, Ecuador.*
- **Workshop for the development of Technological Patents.**  
*Development Bank of Latin America | CAF, 2017, Ecuador.*
- **Symposium for Entrepreneurship Educators.**  
*Babson College, 2018, Ecuador | United States.*
- **Strengthening of Innovative and entrepreneurial capacities.**  
*EAFIT University, 2018, Ecuador | Colombia.*

### Featured data:

- **Research** training: 702 training hours.
- **Innovation** training: 634 training hours.
- **Teaching** training: 705 training hours.

No.	Course/Workshop Title	Institution/ Organization	Place	Hours	Start Date	Contribution
1	Certificación en Investigación Avanzada	Corporación Ecuatoriana para el Desarrollo de la Investigación y la Academia - CEDIA	Cuenca, Ecuador	80	10/6/2024	Research
2	Protección de activos intelectuales y Transferencia de Tecnología	Universidad Técnica Particular de Loja	Loja, Ecuador	40	25/3/2024	Innovation
3	XXXI Jornadas de Ingeniería Eléctrica y Electrónica	Escuela Politécnica Nacional	Quito, Ecuador	24	29/11/2023	Research
4	Big Data y Analytics en la Industria 4.0	Corporación Ecuatoriana para el Desarrollo de la Investigación y la Academia - CEDIA	Cuenca, Ecuador	40	20/11/2023	Research
5	Pautas Metodológicas y Didácticas en la Modalidad Semipresencial	Universidad de El Salvador	San Salvador, El Salvador	25	10/6/2023	Teaching
6	Semana de la Propiedad Intelectual	Corporación Ecuatoriana para el Desarrollo de la Investigación y la Academia - CEDIA	Quito, Ecuador	12	27/4/2023	Innovation
7	Marca Personal docente e investigadora	Universidad Técnica Particular de Loja	Loja, Ecuador	40	17/4/2023	Research
8	Herramientas tecnológicas de Inteligencia Artificial para mejorar las habilidades profesionales: ChatGPT en la educación	Universidad Técnica Particular de Loja	Loja, Ecuador	40	3/4/2023	Teaching
9	Redes sociales para el aprendizaje colaborativo e interactivo	Universidad Técnica Particular de Loja	Loja, Ecuador	40	27/3/2023	Teaching
10	Estrategias didácticas y tecnológicas para el aprendizaje activo	Universidad Técnica Particular de Loja	Loja, Ecuador	40	6/3/2023	Teaching
11	Metodologías activas para dinamizar las clases	Universidad Técnica Particular de Loja	Loja, Ecuador	20	6/3/2023	Teaching
12	Nuevas técnicas de control y automatización de sistemas continuos basado en eventos y norma IEC 61499	Corporación Ecuatoriana para el Desarrollo de la Investigación y la Academia - CEDIA	Cuenca, Ecuador	40	14/1/2023	Research
13	Protección jurídica de activos intelectuales	Universidad Técnica Particular de Loja	Loja, Ecuador	40	7/11/2022	Innovation
14	Certificación Innovación Avanzada	Corporación Ecuatoriana para el Desarrollo de la Investigación y la Academia - CEDIA	Cuenca, Ecuador	120	1/7/2022	Innovation

15	Transformación digital de las Empresas en la Industria 4.0	Corporación Ecuatoriana para el Desarrollo de la Investigación y la Academia - CEDIA	Cuenca, Ecuador	40	28/3/2022	Innovation
16	Docentes competentes en Ambientes Virtuales de Aprendizaje	Universidad Nacional Abierta y a Distancia	Bogotá, Colombia	120	15/3/2022	Teaching
17	La Educación Híbrida	Universidad Nacional Abierta y a Distancia	Bogotá, Colombia	120	15/3/2022	Teaching
18	Transferencia tecnológica: De la investigación al mercado.	Pontificia Universidad Católica de Chile	Santiago, Chile	8	1/10/2020	Innovation
19	Gestión de proyectos: las bases del éxito	University of California, Irvine	Irvine, United States	8	25/10/2020	Research
20	Gestión de Proyectos con Metodologías Ágiles	Fundación Telefónica Ecuador	Quito, Ecuador	40	20/5/2020	Research
21	Gestión del Conocimiento para la Ciencia, Tecnología e Innovación	Universidad Politécnica Salesiana	Cuenca, Ecuador	120	15/3/2020	Innovation
22	El estado del arte en investigación - Revisión sistemática de literatura científica	Universidad Técnica Particular de Loja	Loja, Ecuador	40	9/3/2020	Research
23	Curso Internacional en Cultura de la Investigación on-line. Modalidad Ingeniería y Empresa	Universidad Internacional de La Rioja	Loja, Ecuador	100	16/4/2020	Research
24	Redacción académica en idioma inglés	Universidad Técnica Particular de Loja	Loja, Ecuador	40	11/3/2019	Research
25	Herramientas y técnicas para publicar los resultados de las buenas prácticas y proyectos de innovación docente	Universidad Técnica Particular de Loja	Loja, Ecuador	40	25/9/2019	Teaching
26	Diseño inclusivo aplicado a la gamificación, videojuegos y makerspaces	Universidad Técnica Particular de Loja	Loja, Ecuador	40	11/12/2019	Teaching
27	Taller de prototipado ágil en innovación de prácticas docentes UTPL	Universidad Técnica Particular de Loja	Loja, Ecuador	40	27/2/2018	Teaching
28	Taller de Ideación ágil: Innovar en la docencia y en la divulgación científica UTPL	Universidad Técnica Particular de Loja	Loja, Ecuador	40	23/4/2018	Teaching
29	Symposium for Entrepreneurship Educators -Babson College-	Babson College	Loja, Ecuador	40	4/12/2018	Teaching
30	La construcción de la visibilidad científica nacional e internacional	Universidad Técnica Particular de Loja	Loja, Ecuador	40	17/9/2018	Research

	del investigador: aplicaciones web y usos					
31	Guía básica para la publicación de artículos científicos	Universidad Técnica Particular de Loja	Loja, Ecuador	40	26/3/2018	Research
32	Taller intensivo para el desarrollo acelerado de Patentes Tecnológicas	CAF – Development Bank of Latin America	Loja, Ecuador	60	4/12/2017	Innovation
33	Taller intensivo para el desarrollo acelerado de Patentes	CAF – Development Bank of Latin America	Loja, Ecuador	60	25/9/2017	Innovation
34	Programa Internacional Fortalecimiento de Capacidades Innovadoras y Emprendedoras	Universidad EAFIT	Loja, Ecuador	20	22/5/2017	Innovation
35	Formación de Coaches de Emprendimiento	Universidad Técnica Particular de Loja	Loja, Ecuador	20	25/7/2017	Teaching
36	Formulación, dirección, seguimiento y gestión de proyectos	Universidad Técnica Particular de Loja	Loja, Ecuador	40	4/4/2016	Innovation
37	Familiarización docentes Entorno Virtual de Aprendizaje (EVA+)	Universidad Técnica Particular de Loja	Loja, Ecuador	40	9/9/2016	Teaching
38	Embedded Control and Monitoring Using LabVIEW	National Instruments	Santiago, Chile	40	19/10/2015	Research
39	Taller de entrenamiento en Robótica Aplicada para la educación	University of South Florida	Tampa, United States	40	8/12/2014	Research
40	Curso Evaluación de Aprendizajes y Elaboración de Ítems para Bancos de Preguntas	Universidad Técnica Particular de Loja	Loja, Ecuador	40	12/3/2014	Teaching
41	Control inteligente basado en técnicas neuro-difusas	Universidad Técnica Particular de Loja	Loja, Ecuador	20	9/5/2011	Research
42	Uso de Matlab para simulación y modelación	Universidad Nacional de Loja	Loja, Ecuador	10	12/6/2010	Research
43	Micro Automatización II, PLC S7-200 Step7 MicroWin	Siemens Ecuador	Cuenca, Ecuador	40	2/2/2009	Innovation
44	Simulación y Control de Procesos	Universidad del Norte	Barranquilla, Colombia	40	26/5/2008	Research
45	Micro Automatización I, PLC LOGO! Quinta generación	Siemens Ecuador	Cuenca, Ecuador	34	3/11/2008	Innovation

## 2. Work experience

### Research, Teaching, and Professional experience

- As a **Scientific Researcher**, 17 years of experience.
- As a **University Professor**, 19 years of experience.
- In Postgraduate Programs I have collaborated with **five Universities**: UTPL, UTA, ESPOCH, UTMACH, and UESalvador.

**UTPL** - Department of Computer Science and Electronics

**Scientific Researcher**

*May 2012 - Present*

- Generate projects and initiatives of research, innovation and community engagement.
- Plan and execute research, development and innovation Projects related to: Robotics, Automatic Control, Automation and Sensors.
- Coordinate the activities R&D+I of the “Control, Automation and Intelligent Systems” Research Group.
- Coordinate the projects of the Prototyping and Innovation Laboratory “Electronics and Applied Robotics”.

**UTPL** - Faculty of Engineering and Architecture

**Associate Professor**

*Sep 2005 – Present*

- **Engineering Programs**: Electronics and Telecommunications Engineering, Telecommunications Eng., Informatics and Computer Eng., and Industrial Eng.
- **Postgraduate Programs**: Master in Applied Artificial Intelligence, Master in Industry 4.0 and Digital Transformation.
- Teaching of the Courses: Automatic Control Theory, Instrumentation, Industrial Robotics, Electrical Circuits, Electronic Systems, and Programming, in the current academic curriculums.
- Plan and execute teaching innovation Projects.

**UTPL** – Electronics and Energy Departmental Section

**Leader of Departmental Section**

*May 2012 – Jul 2014*

- Coordinate teaching and research activities of academic staff belonging to the Departmental Section.
- Manage financial resources for research/innovation/teaching infrastructure.

**UTPL** - Electricity and Electronic Systems Group

**Scientific Researcher**

*Dec 2006 – Apr 2012*

- Generate projects and initiatives of research, innovation and community engagement.
- Plan and execute research, development and innovation Projects related to: Data Acquisition, Electronics and Robotics.

**UES** - Postgraduate School

**Master's Professor**

*Aug 2023 – Sep 2023*

- Universidad de El Salvador
- **Postgraduate Program**: Master in Engineering for Industry with a specialization in Computer Science.
- Lecturer of the Course: Industrial Control Systems.

**ESPOCH** – Institute of Postgraduate and Continuing Education

**Master's Professor**

*Nov 2021 – Dec 2021*

**Postgraduate project Director**

*Jun 2022 – Sep 2022*

*Nov 2019 – Dec 2019*

- Escuela Superior Politécnica de Chimborazo
- **Postgraduate Program:** Master in Control Systems and Industrial Automation
- Lecturer of the Course: Distributed Control Systems and SCADA.
- Project Director: Methodological model of a remote laboratory of industrial Robotics and Industry 4.0 applied to improve the learning of engineering students at UTPL.
- Project Director: Evaluation and Comparative Analysis of the tuning, optimization and approximation strategies of fractional order controllers applied to mechatronic systems.

**UTA** – Postgraduate Center

**Master's Professor**

*Jun 2022 – Jul 2022*

*Jan 2024 – Feb 2024*

- Universidad Técnica de Ambato
- **Postgraduate Program:** Master in Electric Propulsion Systems.
- Lecturer of the Course: Electronic Control Units.

**UTMACH** – Postgraduate Center

**Postgraduate project Director**

*Nov 2021 – Apr 2022*

- Universidad Técnica de Machala
- **Postgraduate Program:** Master in Software.
- Project Director: Image processing for the classification of coffee beans by shape and color.

**IEEE RAS Ecuador**

**President**

*Jan 2023 – Dec 2023*

- RAS: Robotics and Automation Society
- Coordinate the network of IEEE volunteers around the Ecuador (220+ members) to generate Projects and activities that link the Academy and Industry.

**IEEE SIGHT Ecuador**

**Chair / President**

*Jan 2020 – Dec 2021*

- SIGHT: Special Interest Group on Humanitarian Technology.
- Coordinate the network of IEEE volunteers around the Ecuador (300+ members) to that partner with underserved communities and local organizations to leverage technology for sustainable development.
- Manage, organize and execute technology projects applied to sustainable development.

**KRADAC Company**

**Co-Founder & Executive President**

*Jan 2010 – Oct 2021*

- Manage the execution of technological projects and consultancies.
- Increase the client portfolio of the company's technological products.

## Executive and Administrative experience

- **University Management**, 12.3 years.
- **Executive Management**, 13 years.
- **R&D+I Project Management**, 12.6 years.

No.	Position	Institution/ Organization	Period
1	<b>Director</b> of the “Control, Automation and Intelligent Systems” ( <a href="#">CONSYS</a> ) Research Group	UTPL	Nov 2016 - Present
2	<b>Coordinator</b> of the <a href="#">LERAP</a> Prototyping and Innovation Laboratory (Electronics and Applied Robotics)	UTPL	Jan 2014 - Present
3	<b>Leader</b> of Electronics and Energy Departmental Section	UTPL	May 2012 – Jul 2014
4	<b>Director</b> of 10 Research, Development and Innovation Projects. Period 11 years   Budget 340 thousand dollars	UTPL	Mar 2012 – Present
5	<b>President</b> IEEE Robotics and Automation Society Ecuador	IEEE RAS Ecuador	Jan 2023 – Dec 2023
6	<b>Executive President</b> and Co-Founder of the technology-based company KRADAC	KRADAC	Jan 2010 – Oct 2021
7	<b>Chair/President</b> of IEEE SIGHT Ecuador (Special Interest Group on Humanitarian Technology)	IEEE SIGHT Ecuador	Jan 2020 – Dec 2021

## 3. Research, Development and Innovation Projects

### Featured data:

- **29 R&D+I Projects:** Time period, 26.9 years; Executed budget: 1.97 Million dollars.
- **Project types:** 16 **Research** projects, 10 **Innovation** and Technology Transfer projects, and 3 **Community Engagement** projects.
- **Projects Director:** 10 Projects, 11.7 Years, 341 thousand dollars.
- **External funds:** 11 Projects with **Industry/Government funds**, 4 Projects with **CEDIA funds**.
- **Technology Readiness Level (TRL) of the Projects:** TRL7 = 11 Projects, TRL6 = 8 Projects.
- **Impact on the Sustainable Development Goals SDGs:** SDG9 (Innovation/Industry) = 17 Projects. SDG12 (Responsible production) = 6 Projects.

No.	Project name	Type	Role	Budget	Start date	End date
1	IoT-Keeper: IoMT architecture for the acquisition, analysis and prediction of variables and indicators applied to the identification of occupational health and safety risks in high-risk industrial segments.	Research	<b>Director</b>	\$ 80.000,00	01/05/2023	Present
2	Robotic system applied to automated and reconfigurable cutting, in the heterogeneous production line of clay derivatives, to maximize productivity and quality of the final product.	Research	<b>Director</b>	\$ 19.230,00	01/12/2022	31/03/2024
3	Trajectory tracking for industrial robots based on active control.	Research	Participant	\$ 3.500,00	01/12/2022	30/11/2023
4	Analysis of the thermal properties of graphene and zeolite.	Research	Participant	\$ 4.200,00	15/11/2022	15/12/2023
5	Technological architecture and methodology for the management of the production process of the Cafrilosa food industry.	Innovation	<b>Director</b>	\$ 20.631,00	06/10/2022	06/04/2023
6	Comprehensive management of Chronic Kidney Disease and renal failure in the population of Loja.	Research	Participant	\$ 0,00	01/10/2022	Present
7	Industrial Robotics Laboratory: Identification of opportunities and applications of Industrial Robotics in the Ecuadorian productive sector.	Research	Participant	\$ 3.200,00	01/09/2021	01/09/2021
8	Ultraviolet-C COVID-19 Tunnel	Innovation	Participant	\$ 6.339,20	22/5/2020	30/6/2020
9	High-volume 3D printer prototype for manufacturing with recycled plastics.	Innovation	<b>Director</b>	\$ 7.888,38	1/10/2019	1/4/2020
10	Electronic glasses to improve vision, focused on educational applications.	Innovation	<b>Director</b>	\$ 6.268,72	1/10/2019	31/1/2020
11	Protect working women: Acquisition of biomechanical, ergonomic, anthropometric, and clinical-postural data to study the cause of spinal deviations in indigenous women.	Research	<b>Director</b>	\$ 22.000,00	15/8/2019	15/8/2020
12	Design and implement a wireless signal receiver (Hub) and autonomous portable transmitter devices (Nano), applied to the technology industry.	Innovation	Participant	\$ 8.397,36	17/6/2019	17/12/2019
13	Quinde, the gift of fire: Educational robotics camps for children and educators belonging to low-income schools.	Community Engagement	Participant	\$ 0,00	1/7/2019	13/1/2020
14	Automated electrical equipment prototype for essential oil extraction.	Innovation	Participant	\$ 10.494,72	5/11/2018	4/2/2019
15	Design of sensory material and electronic prototypes for children with visual disabilities.	Community Engagement	Participant	\$ 2.950,00	3/4/2017	31/3/2018

16	New transmission schemes for the next generation of 5G cellular communications: Massive MIMO and Heterogeneous Networks.	Innovation	Participant	\$ 12.635,00	9/8/2016	31/12/2016
17	Innovation in the development of advanced communication systems using Software-defined Radio technologies with GNU Radio.	Research	Participant	\$ 10.000,00	1/7/2015	30/9/2015
18	Estimation and Control for Robust Sensors Applied to Smartland: Phase 2.	Research	Participant	\$ 78.476,25	5/1/2015	18/12/2016
19	Mano de Esperanza Project: Design, implementation, and validation in Region 7 (Ecuador), of a low-cost robotic prosthesis applied to people with upper limb mobility disabilities.	Research	<b>Director</b>	\$ 148.990,50	5/1/2015	18/12/2017
20	Estimation and Control for Robust Sensors Applied to Smartland: Phase 1.	Research	Participant	\$ 29.990,25	26/11/2014	30/4/2015
21	Design and installation of a remote monitoring system for evaluation and analysis of the behavior of photovoltaic installations in Ecuador.	Research	<b>Director</b>	\$ 22.474,00	5/8/2014	30/10/2015
22	Development and integration of a telemonitoring system for the supervision of the performance of harvesting renewable energy systems, distributed at the Campus of the UTPL.	Innovation	Participant	\$ 9.990,00	4/2/2013	29/11/2013
23	Development of a turbo system to harvest the kinetic energy of the water.	Innovation	Participant	\$ 19.372,00	5/4/2013	29/11/2013
24	Telesurgery platform for the transmission of data, audio, and video from operating rooms to university classrooms.	Research	<b>Director</b>	\$ 12.733,00	23/3/2012	15/12/2012
25	Combination of hydraulic techniques and technological systems to improve the management of drinking water systems.	Research	Participant	\$ 10.125,00	9/3/2012	30/11/2012
26	Generation of geoinformation for the management of the national territory (Ecuador).	Community Engagement	Participant	\$ 1.386.855,00	1/9/2011	28/3/2012
27	Optimal design of pressure irrigation systems and their hydro-energy efficiency, application to the coffee irrigation system, in Loja (Ecuador).	Research	Participant	\$ 7.842,80	1/5/2011	30/11/2012
28	Setup and structuring of technological architectures to support the technical management of drinking water supplies. Technological innovation to improve and optimize hydraulic	Community Engagement	Participant	\$ 22.269,60	20/1/2011	20/12/2011

management in drinking water supply systems.

## 4. Scientific Publications: Scopus/Web of Science

My Academic Profile:    

### Featured data:

- **Researcher impact: h index = 12**, according to Google Scholar. **h index = 9**, according to Scopus.
- **39 Scientific Publications** indexed in Scopus / Web of Science.
- **25 Scientific Publications** indexed as **Main Author**.
- **8 Scientific Publications** **Journal**-type.
- **8 Book Chapters** and Proceedings. **7 Articles** indexed in **Latindex**.

No.	Title	Authors	Journal/Event Information	Link
1	A Deep Reinforcement Learning Framework for Control of Robotic Manipulators in Simulated Environments	<b>C. Calderon-Cordova</b> , R. Sarango, D. Castillo, and V. Lakshminarayanan	IEEE Access, vol. 12, pp. 103133-103161, 2024	<a href="#">Link</a>
2	Trajectory control based on On/Off, Fuzzy Logic and Convolutional Neural Networks for an Industrial Robot Arm: an experimental comparison	J. R. Castro, D. Rosales and <b>C. Calderon-Cordova</b>	IEEE Latin America Transactions, vol. 22, no. 7, pp. 529-538, July 2024	<a href="#">Link</a>
3	A Deep Reinforcement Learning Algorithm for Robotic Manipulation Tasks in Simulated Environments	<b>C. Calderon-Cordova</b> , and R. Sarango	MDPI EngProc, vol 47, no. 1: 12, Dec. 2023	<a href="#">Link</a>
4	Performance analysis of motion control algorithms of an industrial robot arm applied to 3D Concrete Printing Systems	<b>C. Calderon-Cordova</b> , L. Sarango, D. Chamba, R. Sarango, and R. Castro	MDPI EngProc, vol 47, no. 1: 9, Dec. 2023	<a href="#">Link</a>
5	Robotic Manipulators: A Control Architecture Approach Based on Deep Reinforcement Learning and Simulation Environments.	<b>C. A. Calderon</b> and R. Sarango	2023 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Tenerife, Canary Islands, Spain, 2023, pp. 1-6	<a href="#">Link</a>

6	Development of an autonomous system based on computer vision and open software-hardware platforms, applied to an educational game for inclusive basic education.	<b>C. A. Calderon</b> , S. Sarmiento and R. Sarango	2023 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Tenerife, Canary Islands, Spain, 2023, pp. 1-6	<a href="#">Link</a>
7	Deep Reinforcement Learning for autonomous ground vehicle driving in mountainous environments with adverse environmental conditions	R. Sarango and <b>C. A. Calderon</b>	2023 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Tenerife, Canary Islands, Spain, 2023, pp. 1-6	<a href="#">Link</a>
8	Realization and comparative analysis of Fractional Order Controllers for different discretization methods	<b>C. A. Calderon</b> and R. Sarango	2022 IEEE International Conference on Automation/XXV Congress of the Chilean Association of Automatic Control (ICA-ACCA), Curicó, Chile, 2022, pp. 1-6	<a href="#">Link</a>
9	Convolutional Neural Network (CNN) and Industrial Robot Arm applied to an automatic coffee bean selection system	<b>C. A. Calderon</b> , J. Robles, S. Morocho and R. Sarango	2022 IEEE International Conference on Automation/XXV Congress of the Chilean Association of Automatic Control (ICA-ACCA), Curicó, Chile, 2022, pp. 1-6	<a href="#">Link</a>
10	Analysis of the optimal performance of several industrial robots in demanding situations using Pareto	R. A. Barrazueta, J. R. Castro, T. D. Castillo and <b>C. A. Calderon Cordova</b>	2022 IEEE Sixth Ecuador Technical Chapters Meeting (ETCM), 2022, pp. 1-6	<a href="#">Link</a>
11	A Neural Network embedded system for real-time identification of EMG signals	<b>C. A. Calderon</b> , L. Jaramillo, J. Zuñiga, W. Hernandez and F. Rivas-Echeverría.	2018 IEEE International Conference on Automation/XXIII Congress of the Chilean Association of Automatic Control (ICA-ACCA), Concepcion, 2018, pp. 1-7.	<a href="#">Link</a>
12	A machine vision system applied to the teaching of mathematics for blind or visually impaired children	<b>C. A. Calderon</b> , M. Guajala, J. Lanchi, L. Barba, C. Bermeo and F. Rivas-Echeverría.	2018 IEEE International Conference on Automation/XXIII Congress of the Chilean Association of Automatic Control (ICA-ACCA), Concepcion, 2018, pp. 1-7.	<a href="#">Link</a>
13	Implementation and comparative analysis of fractional order PID Embedded Controllers, applied to speed control of a robotic prosthesis	<b>C. A. Calderon</b> , R. Sarango, E. Macas, C. Ramírez, F. Rivas-Echeverría and W. Hernandez.	2018 IEEE International Conference on Automation/XXIII Congress of the Chilean Association of Automatic Control (ICA-ACCA), Concepcion, 2018, pp. 1-6.	<a href="#">Link</a>
14	Virtual instrumentation system to automatically determine the stress-strain curve of Tensile Test	L. Jimenez, <b>C. A. Calderon</b> , R. Loyola, F. Cuenca and F. Rivas-Echeverría.	2018 IEEE International Conference on Automation/XXIII Congress of the Chilean Association of Automatic Control (ICA-ACCA), Concepcion, 2018, pp. 1-6.	<a href="#">Link</a>
15	Automation of a medicinal herb crusher machine applied to the small food industry	<b>C. Calderon-Cordova</b> , E. Chuquimarca, D. Salinas, D. Salinas, J. Rivera and C. R. Betancourth.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-7.	<a href="#">Link</a>
16	System of monitoring and automation of temperature of a Turkish bath	<b>C. Calderon-Cordova</b> , G. Luis, J. Morillo, A.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-6.	<a href="#">Link</a>

		Rivera, C. Torres and C. Ramirez.		
17	Prototype industrial IoT applied to temperature monitoring in storage silos of dairy products	<b>C. Calderon-Cordova</b> , M. Gonzaga, J. Morales, M. Morocho, B. Torres and C. Ramirez.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-6.	<a href="#">Link</a>
18	Monitoring and automation of the water pumping and storage process applied to a water treatment plant	<b>C. A. Calderon</b> , M. Cueva, N. Cuenca, A. Honores, D. Guaman, D. Jimenez and C. Ramirez.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-6.	<a href="#">Link</a>
19	Temperature monitoring system for the pasteurization process applied to the small dairy industry	<b>C. Calderon-Cordova</b> , J. Criollo, J. Fernandez, D. Japon, R. Remache and C. Ramirez.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-7.	<a href="#">Link</a>
20	Automation prototype applied to the process of packaging water drums of the VillonacoWater Plant	<b>C. Calderon-Cordova</b> , V. Calderon, C. Maza, K. Rodriguez, J. Samaniego and C. Ramirez.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-7.	<a href="#">Link</a>
21	Wireless sensor network for real-time monitoring of temperature, humidity and illuminance in an orchid greenhouse	<b>C. Calderon-Cordova</b> , B. Bustamante, J. Delgado, C. Febres, V. Montano, C. Saritama and C. Ramirez.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-7.	<a href="#">Link</a>
22	System of monitoring and automation of a rural pumping system, based on WSN and PLC	<b>C. Calderon-Cordova</b> , M. Chavez, J. Espinoza, A. Jimenez, J. Quito, L. Salazar and C. Ramirez.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-7.	<a href="#">Link</a>
23	Smartphone-based monitoring system of a coffee roaster machine, applied to small industry	<b>C. A. Calderon</b> , A. Armijos, C. Chamba, H. Cueva, F. Ochoa, I. Ortega and C. Ramirez.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-8.	<a href="#">Link</a>
24	PLC-based temperature controller applied to a distiller of essential oils by water-steam drag	<b>C. A. Calderon</b> , J. P. Gutierrez, L. Alvarez, D. Granda, E. Valarezo and C. Ramirez.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-7.	<a href="#">Link</a>
25	Using wolfram software to improve reading comprehension in mathematics for software engineering students	L. Barba, P. Quezada, <b>C. Calderon</b> , A. Sarmiento, L. Enciso, T. Luna and L. Conde.	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-4.	<a href="#">Link</a>

26	Used of social networks and web application to design and promote the ecotourism route in the Southern Amazon of Ecuador	P. A. Quezada, M. G. Suasnavas, P. M. Chango, C. Gonzaga, L. Enciso and <b>C. A. Calderón</b> .	2018 13th Iberian Conference on Information Systems and Technologies (CISTI), Caceres, 2018-June, pp. 1-7.	<a href="#">Link</a>
27	Use of game jam model in the develop of an educational board game	L. Barba-Guaman, P. A. Quezada and <b>C. Calderon</b> .	2017 12th Iberian Conference on Information Systems and Technologies (CISTI), Lisbon, 2017-June, pp. 1-5.	<a href="#">Link</a>
28	Detection of moving objects through color thresholding	L. Barba-Guamán, <b>C. Calderon-Cordova</b> and P. A. Quezada.	2017 12th Iberian Conference on Information Systems and Technologies (CISTI), Lisbon, 2017-June, pp. 1-6.	<a href="#">Link</a>
29	Development of software prototypes through model game jam and basic vision artificial techniques	L. Barba, P. Quezada, <b>C. Calderon-Cordova</b> , L. Enciso and D. Guamán.	2017 12th Iberian Conference on Information Systems and Technologies (CISTI), Lisbon, 2017-June, pp. 1-6.	<a href="#">Link</a>
30	Referent framework to government of IT using standards: COBIT 5 and ISO 38500	P. A. Quezada, P. M. Chango, V. M. Benavides, L. A. Jumbo, L. Barba and <b>C. A. Calderon</b> .	2017 12th Iberian Conference on Information Systems and Technologies (CISTI), Lisbon, 2017-June, pp. 1-6.	<a href="#">Link</a>
31	Design and Deployment of Grasp Control System applied to robotic hand prosthesis	<b>C. A. Calderon</b> , C. Ramirez, V. Barros and G. Punin.	IEEE Latin America Transactions, vol. 15, no. 2, pp. 181-188, Feb. 2017.	<a href="#">Link</a>
32	EMG signal patterns recognition based on feedforward Artificial Neural Network applied to robotic prosthesis myoelectric control	<b>C. Calderon-Cordova</b> , C. Ramírez, V. Barros, P. A. Quezada and L. Barba-Guamán.	2016 Future Technologies Conference (FTC), San Francisco, CA, 2016-Dec, pp. 868-875.	<a href="#">Link</a>
33	Detection of the characters from the license plates by cascade classifiers method	L. Barba-Guamán, P. A. Quezada, <b>C. Calderon-Cordova</b> and J. P. Ordoñez López.	2016 Future Technologies Conference (FTC), San Francisco, CA, 2016, pp. 560-566.	<a href="#">Link</a>
34	Bootstrap-based frequency estimation method	W. Hernández, <b>C. Calderón</b> , V. González, Á. Parra, J. Jiménez, J. González, J. Zato and O. Sergiyenko.	Measurement: Journal of the International Measurement Confederation, vol. 95, pp. 193-200, Jan. 2017.	<a href="#">Link</a>
35	A method of verifying the statistical performance of electronic circuits designed to analyze the power quality	W. Hernandez, <b>C. Calderón</b> , E. Brito, E. Campoverde, V. González and J. Zato.	Measurement: Journal of the International Measurement Confederation, vol. 93, pp. 21-28, Nov. 2016.	<a href="#">Link</a>
36	Design and implementation of an architecture and methodology applied to remote monitoring of weather variables	<b>C. Calderon-Cordova</b> , A. Jaramillo, C. Tinoco and M. Quiñones.	2016 11th Iberian Conference on Information Systems and Technologies (CISTI), Las Palmas, 2016-June, pp. 1-8.	<a href="#">Link</a>

37	Development of hardware architecture applied to real-time monitoring in drinking water distribution system of the Loja city	<b>C. Calderon-Cordova, L.</b> Quichimbo and F. Reyes.	2016 11th Iberian Conference on Information Systems and Technologies (CISTI), Las Palmas, 2016-June, pp. 1-8.	<a href="#">Link</a>
38	Design of a machine vision applied to educational board game	<b>C. Calderon-Cordova, M.</b> Guajala-Michay, R. Barba and P. Quezada-Sarmiento.	2016 6th International Workshop on Computer Science and Engineering (WCSE), Tokyo, 2016-June, pp. 808-811.	<a href="#">Link</a>
39	Low-Cost Measurement for a Secondary Mode S Radar Transmitter	Á. Parra, V. González, J. L. Jiménez, Á. Blanco, W. Hernandez and <b>C. Calderón-Córdova</b>	IEEE Transactions on Instrumentation and Measurement, vol. 64, no. 12, pp. 3217-3225, Dec. 2015.	<a href="#">Link</a>

## 5. Patents

### Featured data:

- **9 Innovation Projects executed:** University-Industry, University-Company, University-Government.
- **9 International Patent Applications, via PCT-WIPO** (World Intellectual Property Organization).
- **4 Patent Applications as Main Author.**

My Innovation Profile:  **IOI LENS.ORG**



No.	Title	Authors	Information	Link
1	Device for characterisation of aquaculture ponds.	<b>C. Calderon Cordova</b> , P. Malla Pacheco, D. Irene, E. Valarezo Valdez and P. Ortiz Viñan.	Patent Application WO2020031165, Dec. 16, 2019.	<a href="#">Link</a>
2	System for agricultural education.	<b>C. Calderon Cordova</b> , P. Malla Pacheco, D. Irene, E. Valarezo Valdez and P. Ortiz Viñan.	Patent Application WO2020039414, Dec. 17, 2019.	<a href="#">Link</a>
3	Multifunctional swimming goggles.	D. Irene Robalino, <b>C. Calderon Cordova</b> , E. Valarezo Valdez, P. Ortiz Viñan and P. Malla Pacheco.	Patent Application WO2020035845, Dec. 20, 2019.	<a href="#">Link</a>
4	Device for characterising the soil properties of agricultural land.	<b>C. Calderon Cordova</b> , P. Malla Pacheco, D. Irene, E. Valarezo Valdez and P. Ortiz Viñan.	Patent Application WO2018173016, Jun. 15, 2018.	<a href="#">Link</a>
5	System for interacting with board games for the blind.	<b>C. Calderon Cordova</b> , M. Quiñones Cuenca, B. Zuñiga Torres and E. Pineda Puglla.	Patent Application WO2018173015, Jun. 15, 2018.	<a href="#">Link</a>

6	System and method for preventing accidents caused by the presence of objects on transport routes resulting from natural phenomena.	M. Quiñones Cuenca, <b>C. Calderon Cordova</b> , B. Zuñiga Torres and E. Pineda Puglla.	Patent Application WO2018167749, Jun. 13, 2018.	<a href="#">Link</a>
7	Detachable device that can be fitted to supports used to take selfies.	E. Pineda Puglla, B. Zuñiga Torres, <b>C. Calderon Cordova</b> and M. Quiñones Cuenca.	Patent Application WO2018167752, Jun. 14, 2018.	<a href="#">Link</a>
8	Portable cleaning device.	B. Zuñiga Torres, A. Zuñiga Torres, E. Pineda, <b>C. Calderon Cordova</b> and M. Quiñones Cuenca.	Patent Application WO2018167751, Jun. 14, 2018.	<a href="#">Link</a>
9	Frequency Meter.	W. Hernandez Perdomo, <b>C. Calderon Cordova</b> , C. Campoverde and J. Lanchi Ochoa.	Patent Application WO2017089856, Nov. 25, 2015.	<a href="#">Link</a>

## 6. Other Scientific Publications

### Latindex/Regional divulgation

No.	Year	Title	Type of Authorship	Type of publication	Journal / Magazine / Media Information
1	2021	Hacktech COVID-19: Caso de estudio de un hackathon virtual en Latinoamérica.	Co-author	Latindex	Journal: ACI Avances en Ciencias e Ingenierías, ISSN 2528-7788, vol. 13, n° 2, p. 14, nov. 2021.
2	2021	SIGHT Ecuador: Tecnología Humanitaria con relevancia global y pertinencia local.	<b>Primary author</b>	Divulgation - International	Magazine: Noticiero IEEE Region 9 (# 117), ISSN 2157-8354, vol. 46, n° 4, p. 47, dec. 2020.
3	2018	Proyectos Inclusivos: AXE, visión artificial.	<b>Primary author</b>	Divulgation - National	Printed Magazine: Revista Vistazo, sección Estudios Superiores, p. 30, mar. 8, 2018.
4	2017	Una pequeña lámpara para garantizar una educación inclusiva de calidad a niños ciegos.	<b>Primary author</b>	Divulgation - National	Digital Magazine: Dialoguemos, la academia en la comunidad, oct. 23, 2017.
5	2016	Sistema de obtención de imágenes satelitales HRPT	Co-author	Latindex	Journal: Geoespacial, ISSN 1390-3993, vol. 13, n° 2, dec. 2016.

		aplicando infraestructura de datos espaciales.			
6	2014	Una mano de esperanza para todos.	<b>Primary author</b>	Divulgation - National	Journal: Perspectivas de investigación, ISSN 1390-891X, n° 1, jun. 2014.
7	2014	Carlos Calderón, Crearemos una prótesis inteligente que favorezca la inclusión social.	<b>Primary author</b>	Divulgation - National	Journal Perspectivas de investigación, ISSN 1390-891X, n° 5, oct. 2014.

## Academic Book Chapters

No.	Title	Type of Authorship	ISBN	Editorial	Year
1	XXXI Conference on Electrical and Electronic Engineering	Co-author	978-3-7258-0372-9	MDPI, Basel, Switzerland	2024
2	International Conference on Electrical, Computer, Communications and Mechatronics Engineering	Co-author	979-8-3503-2297-2	IEEE Spain Section; Universidad de La Laguna	2023
3	IEEE ICA - ACCA 2022 For the development of sustainable agricultural systems	Co-author	978-1-6654-9408-3	IEEE Chile Section; Asociación Chilena de Control Automático ACCA	2022
4	Proceedings IEEE ICA - ACCA 2018.	Co-author	978-1-5386-5586-3	IEEE Chile Section; Asociación Chilena de Control Automático ACCA	2018
5	Information Systems and Technologies.	Co-author	978-989-98434-7-9	Research Publishing Services	2017
6	Diseño de dispositivos de rehabilitación y órtesis.	Co-author	978-9978-375-29-7	Universidad de los Andes (Venezuela)	2017
7	Sistemas y Tecnologías de Información.	Co-author	978-989-98434-6-2	AISTI (Asociación Ibérica de Sistemas y Tecnologías de Información)	2016
8	6th International Workshop on Computer Science and Engineering.	Co-author	978-981-110008-6	WCSE (Workshop on Computer Science and Engineering)	2016

## 7. Academic and Scientific Conferences

### Featured data:

- **49 Scientific and Academic Conferences presented** at events.
- **25 International scientific events** in which I participated as an **Expositor**.
- **15 Keynote Conferences presented** at Scientific Events.
- **8 Countries as Expositor:** Ecuador, Spain, Chile, United States, Portugal, Mexico, Colombia, and El Salvador.

No.	Conference Title	Name of the Congress/Event	Organized by	Coverage - Type	Place - Date
1	Robótica e Inteligencia Artificial: Transformando el futuro de la Empresa	Olimpiada Mundial de Robótica (WRO) Ecuador	Universidad Bolivariana del Ecuador	International - Keynote Conference	Guayaquil, Ecuador – 2/8/2024
2	Industria 4.0: Proyectos y experiencias en Robótica Industrial e Inteligencia Artificial	V Technical Week: Empowering ideas, creating futures	Universidad Don Bosco	International - Presentation	Soyopango, El Salvador – 9/7/2024
3	Hacia la Transformación de la Industria: Integrando la Inteligencia Artificial, la Robótica Industrial y el IIoT	II Congreso Internacional de Investigación Científica InDTec 2024	Instituto Superior Tecnológico Sudamericano Loja	National - Keynote Conference	Loja, Ecuador – 28/6/2024
4	Industria 4.0 y Transformación digital	Conversatorio Ingeniería Industrial	Universidad Técnica Particular de Loja	National - Presentation	Loja, Ecuador – 6/5/2024
5	Potenciar el empoderamiento de los estudiantes: Experiencias desde los proyectos Universidad-Empresa	Jornadas académicas UTPL	Universidad Técnica Particular de Loja	National - Presentation	Loja, Ecuador – 4/4/2024
6	Performance analysis of motion control algorithms of an industrial Robot Arm applied to 3D Concrete Printing systems	XXXI Jornadas de Ingeniería Eléctrica y Electrónica	Escuela Politécnica Nacional	International - Presentation	Quito, Ecuador – 30/11/2023
7	Digitalización de la Industria: Robótica, IA e IoT Industrial en Acción	Webinar Conectividad y Redes Convergentes	Universidad de Guayaquil	National - Presentation	Guayaquil, Ecuador – 28/11/2023
8	Robotic Manipulators: A Control Architecture Approach Based on Deep Reinforcement Learning and Simulation Environments	3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering	Universidad de La Laguna	International - Presentation	Tenerife, Spain – 21/7/2023
9	Development of an autonomous system based on computer vision and open software-hardware platforms, applied to an educational	3rd International Conference on Electrical, Computer, Communications and	Universidad de La Laguna	International - Presentation	Tenerife, Spain – 21/7/2023

	game for inclusive basic education.	Mechatronics Engineering			
10	Innovaciones tecnológicas en la Robótica y su aplicación en la transformación de procesos industriales	Webinar Innovaciones tecnológicas en la Robótica	Universidad Técnica Particular de Loja	National - Presentation	Loja, Ecuador – 6/7/2023
11	La importancia de los datos en el contexto de la Industria 4.0	Webinar Diplomado en Data Science	Universidad Técnica Federico Santa María	International – Keynote Conference	Valparaíso, Chile – 22/6/2023
12	Transformación aplicada al Sector Productivo: Innovación y Transferencia de Tecnología	IV Conferencia TI	Universidad de Guayaquil	National - Presentation	Guayaquil, Ecuador – 28/11/2022
13	Realization and comparative analysis of Fractional Order Controllers for different discretization methods	2022 IEEE International Conference on Automation	IEEE Sección Chile	International - Presentation	Curicó, Chile – 28/10/2022
14	Convolutional Neural Network (CNN) and Industrial Robot Arm applied to an automatic coffee bean selection system	2022 IEEE International Conference on Automation	IEEE Sección Chile	International - Presentation	Curicó, Chile – 27/10/2022
15	Patente: Sistema tecnológico para interactuar con juegos de mesa	XI Investiga y VI Innova UTPL	Universidad Técnica Particular de Loja	National - Presentation	Loja, Ecuador – 14/10/2022
16	Panel: La automatización, la robótica y la inteligencia artificial en procesos industriales de Loja	XI Investiga y VI Innova UTPL	Universidad Técnica Particular de Loja	National - Presentation	Loja, Ecuador – 13/10/2022
17	Estrategias para generar y ejecutar Proyectos de Innovación docente	Aprehenser	Pontificia Universidad Católica del Ecuador - Ibarra	National - Keynote Conference	Ibarra, Ecuador – 12/9/2022
18	Innovación tecnológica aplicada a la Industria 4.0	Jornada Académica Estudiantil de Ciencias de la Ingeniería 2022	Universidad Técnica Estatal de Quevedo	National - Keynote Conference	Quevedo, Ecuador – 2/9/2022
19	Integrando la Visión Artificial y la Robótica hacia la Industria 4.0	Webinars de Interacción Persona Ordenador en Iberoamérica (WIPO 2022)	Red Iberoamericana HCI Collab	International - Presentation	Loja, Ecuador – 30/6/2022
20	La Robótica Industrial para la Competitividad del Sector Productivo Ecuatoriano	Webinars Industria 4.0 Robótica Industrial	Universidad Técnica particular de Loja	National - Presentation	Loja, Ecuador – 18/5/2022
21	Rama IEEE: Generar actividades innovadoras y pertinentes	Taller directivos IEEE UPS	Universidad Politécnica Salesiana	National - Keynote Conference	Cuenca, Ecuador – 14/5/2022
22	Ingeniería y Tecnología aplicadas al Desarrollo Sostenible	I Jornada Internacional de Estudiantes de Ingeniería Industrial Koinonia 2022	Universidad Tecnológica de Bolívar	International - Keynote Conference	Cartagena, Colombia – 28/3/2022
23	Control, Automation and Intelligent Systems (CONSYS): Proyectos y resultados	I Encuentro de Grupos de Investigación UTPL	Universidad Técnica Particular de Loja	National - Presentation	Loja, Ecuador – 25/3/2022

24	La Robótica y Automatización como aporte al Sector Productivo y al Desarrollo Sostenible	Ciclo de Conferencias 2.0	IEEE Región 9	International - Presentation	Quito, Ecuador – 22/3/2022
25	La innovación tecnológica como impulso al Sector Productivo Industrial	I Congreso Internacional de Investigación: Innovación, Tecnología y Educación (ITE 2021)	Red de Investigación "Loja Investiga"	International - Keynote Conference	Loja, Ecuador - 3/12/2021
26	Technological innovation drives the Productive Sector	II Jornadas Científicas ISTL	Instituto Superior Tecnológico Loja	National - Presentation	Loja, Ecuador – 23/8/2021
27	Innovación tecnológica en Electrónica aplicada al Desarrollo Sostenible: Proyectos y experiencias	X Investiga y V Innova UTPL	Universidad Técnica Particular de Loja	National - Presentation	Loja, Ecuador - 14/7/2021
28	Innovación tecnológica y desarrollo sostenible: experiencias de proyectos e iniciativas.	IV Congreso Internacional de Tecnologías para el Desarrollo TECDES 2020	Universidad Técnica de Machala	International - Keynote Conference	Machala, Ecuador - 18/11/2020
29	Control y Sistemas Inteligentes para el Desarrollo Sostenible	International Conference on Mechatronics, Electronics and Automotive Engineering ICMEAE 2020	Universidad Autónoma de Morelos	International - Keynote Conference	Morelos, Mexico - 16/11/2020
30	Tecnología Humanitaria: Sensores, control y sistemas inteligentes con impacto social positivo	III Congreso Internacional de Sistemas Inteligentes y Nuevas Tecnologías COISINT 2020	Pontificia Universidad Católica del Ecuador	International - Keynote Conference	Quito, Ecuador - 16/10/2020
31	Retos de las nuevas tecnologías ante la Pandemia	IEEE HackTech COVID	IEEE Region 9	International - Keynote Conference	Quito, Ecuador - 17/4/2020
32	La Universidad como generador de innovación tecnológica-social para discapacidades: algunas experiencias	V Congreso Nacional de Discapacidad	Ministerio de Inclusión Económica y Social	National - Presentation	Loja, Ecuador - 10/12/2018
33	Implementation and comparative analysis of fractional order PID Embedded Controllers, applied to speed control of a robotic prosthesis	2018 IEEE International Conference on Automation / XXIII Congress of the Chilean Association of Automatic Control (ICA-ACCA)	IEEE Sección Chile	International - Presentation	Gran Concepción, Chile - 17/10/2018
34	A Neural Network embedded system for real-time identification of EMG signals	2018 IEEE International Conference on Automation / XXIII Congress of the Chilean Association of Automatic Control (ICA-ACCA)	IEEE Sección Chile	International - Presentation	Gran Concepción, Chile - 18/10/2018
35	High performance Power Quality Analyzer Prototype	VIII Jornadas de Ingeniería Electromecánica	Universidad Nacional de Loja	National - Presentation	Loja, Ecuador - 17/7/2018
36	System of monitoring and automation of a rural pumping system, based on WSN and PLC	13th Iberian Conference on Information Systems and Technologies (CISTI 2018)	AISTI - IEEE Spain Section	International - Presentation	Cáceres, Spain - 13/6/2018

37	Temperature controller applied to a distiller of essential oils by water-steam drag based on PLC	13th Iberian Conference on Information Systems and Technologies (CISTI 2018)	AISTI - IEEE Spain Section	International - Presentation	Cáceres, Spain - 13/6/2018
38	Conectar Profesión y Propósito	TEDx UTPL: Ideas para Cambiar el mundo	Universidad Tecnica Particular de Loja	National - Presentation	Loja, Ecuador - 12/10/2017
39	Detection of moving objects through color thresholding	12th Iberian Conference on Information Systems and Technologies (CISTI 2017)	AISTI - IEEE SMC	International - Presentation	Lisbon, Portugal - 21/6/2017
40	Development of a machine vision applied to educational board game for visually impaired children	VI Investiga UTPL	Universidad Tecnica Particular de Loja	National - Presentation	Loja, Ecuador - 31/5/2017
41	Diseño, implementación y análisis de desempeño de un controlador PID de orden fraccionario (FOPID) aplicado al control embebido de sistemas mecatrónicos.	VI Investiga UTPL	Universidad Tecnica Particular de Loja	National - Presentation	Loja, Ecuador - 31/5/2017
42	Diseño e implementación de un analizador de calidad de energía de alto desempeño, basado en tecnología CompactRIO FPGA.	VI Investiga UTPL	Universidad Tecnica Particular de Loja	National - Presentation	Loja, Ecuador - 31/5/2017
43	Nuestra profesión para generar impacto positivo.	Festival Vocacional YQSCamp 2017	Ministerio de Educación	National - Keynote Conference	Quito, Ecuador - 14/1/2017
44	EMG Signal Patterns Recognition based on Feedforward Artificial Neural Network Applied to Robotic Prosthesis Myoelectric Control	Future Technologies Conference (FTC 2016)	SAI Conferences - IEEE USA	International - Presentation	San Francisco, CA, USA - 6/12/2016
45	Desarrollo de un nodo portátil de monitoreo remoto de variables hidráulicas aplicado a ciudades inteligentes.	11th Iberian Conference on Information Systems and Technologies (CISTI 2016)	AISTI - IEEE SMC	International - Presentation	Gran Canaria, Spain - 15/6/2016
46	Diseño e implementación de un sistema de monitoreo remoto de variables meteorológicas aplicado a Territorios Inteligentes	11th Iberian Conference on Information Systems and Technologies (CISTI 2016)	AISTI - IEEE SMC	Internacional - Ponencia	Gran Canaria, Spain - 15/6/2016
47	Proyectos tecnológicos con impacto positivo	Día del Internet 2013	Universidad Tecnica Particular de Loja	Nacional - Ponencia	Loja, Ecuador - 17/5/2013

## 8. Scientific Committees

### Featured data:

- **34 Scientific Committees** to review articles in **Journals** or in Academic **Events**, and review **Projects**.
- **25 Committees** as reviewer of Articles indexed in **Scopus/Web of Science**.

No.	Description	Type	Organization	Coverage	Date
1	Article reviewer in IEEE ETCM 2021: Articles were reviewed and selected to be indexed in Scopus and presented at the event IEEE Ecuador Technical Chapter Meeting 2021.	Article reviewer - Scopus/WoS	IEEE Ecuador Section	International	12/10/2021
2	Project evaluator in IEEE HAC/SIGHT 2021 Call: Evaluation of Projects received for Call 2 of the IEEE HAC/SIGHT COVID-19 Response Projects. HAC is the Humanitarian Activities Committee. SIGHT is the Special Interest Group on Humanitarian Technology.	Project evaluator - Public call	Institute of Electrical and Electronics Engineers (IEEE)	International	23/8/2021
3	Reviewer of articles in IEEE Latin America Transactions Journal: IEEE Latin America Transactions Journal (ISSN 1548-0992) is indexed in Scopus and Web of Science.	Article reviewer - Scopus/WoS	Institute of Electrical and Electronics Engineers (IEEE)	International	8/1/2021
4	IEEE ANDESCON 2020, Chair in Systems and Control Track: Articles were reviewed and selected to be presented at the event and indexed in Scopus and IEEEExplore. ANDESCON is the biannual Technical and Scientific Conference of the Andean Council of the IEEE.	Scientific committee - Scopus/WoS	IEEE Latin America and the Caribbean (Region 9)	International	13/10/2020
5	IEEE Region 9 Student Awards, Evaluator: I was an evaluator of the IEEE Student Awards of Region 9, Latin America and the Caribbean. The Category in which I was an evaluator is: "Exemplary Student Affinity Group Award".	Article reviewer - Other indexes	IEEE Latin America and the Caribbean (Region 9)	International	8/10/2020
6	CARLA 2020, Chair in Workshop Advanced Computing Reaction against Pandemic: Articles were reviewed and selected to be indexed in Scopus and presented at the event The Latin America High Performance Computing Conference.	Scientific committee - Scopus/WoS	Ecuadorian Corporation for the Development of Research and Academia (CEDIA)	International	9/9/2020
7	Project evaluator for the Ministry of Science, Technology and Innovation of Argentina: Project Evaluator of the FONCYT call (Fund for Scientific and Technological Research), belonging to the Ministry of Science, Technology and Innovation of Argentina.	Project evaluator - Public call	Ministry of Science, Technology and Innovation of Argentina.	International	4/3/2020

8	Reviewer of articles in IEEE Latin America Transactions Journal: IEEE Latin America Transactions Journal (ISSN 1548-0992) is indexed in Scopus and Web of Science.	Article reviewer - Scopus/WoS	Institute of Electrical and Electronics Engineers (IEEE)	International	20/8/2019
9	Reviewer of articles in IEEE Latin America Transactions Journal: IEEE Latin America Transactions Journal (ISSN 1548-0992) is indexed in Scopus and Web of Science.	Article reviewer - Scopus/WoS	Institute of Electrical and Electronics Engineers (IEEE)	International	7/8/2019
10	Reviewer of articles in IEEE Latin America Transactions Journal: IEEE Latin America Transactions Journal (ISSN 1548-0992) is indexed in Scopus and Web of Science.	Article reviewer - Scopus/WoS	Institute of Electrical and Electronics Engineers (IEEE)	International	5/7/2019
11	Reviewer of articles in IEEE Latin America Transactions Journal: IEEE Latin America Transactions Journal (ISSN 1548-0992) is indexed in Scopus and Web of Science.	Article reviewer - Scopus/WoS	Institute of Electrical and Electronics Engineers (IEEE)	International	22/6/2019
12	International scientific committee at the event COISINT 2019: Articles were reviewed and selected to be indexed in Scopus and presented at the event Congreso Internacional de Sistemas Inteligentes y Nuevas Tecnologías 2019.	Scientific committee - Scopus/WoS	Pontificia Universidad Católica del Ecuador (PUCE)	International	8/5/2019
13	Reviewer of articles in "Revista Politécnica" Journal: Revista Politécnica Journal (ISSN 1390-0129) is indexed in Latindex, Scielo and DOAJ.	Article reviewer - Other indexes	Escuela Politécnica Nacional (EPN)	National	11/3/2019
14	Member of the Technical Program Committee in ICICT 2019: Articles were reviewed and selected to be indexed in Scopus and presented at the event 9th Annual International Conference of Information and Communication Technology 2019. Nanning, Guangxi, China.	Scientific committee - Scopus/WoS	International Academic Communication Centre (IRNet)	International	11/1/2019
15	Reviewer of articles in "MASKAY" Journal: MASKAY Journal (ISSN 1390-6712) is indexed in Latindex, Scielo and DOAJ.	Article reviewer - Other indexes	Universidad de las Fuerzas Armadas (ESPE)	National	30/12/2018
16	Member of the Technical Program Committee in WEBIST 2018: Articles were reviewed and selected to be indexed in Scopus and presented at the event 14th International Conference on Web Information Systems and Technologies 2018, Special Session on IoT and Smart Communities - ITSCO 2018. Seville, Spain.	Scientific committee - Scopus/WoS	Institute for Systems and Technologies of Information, Control and Communication (INSTICC)	International	18/9/2018
17	Evaluator of research Projects at the Escuela Politécnica Nacional.	Project evaluator - Institutional call	Escuela Politécnica Nacional (EPN)	National	24/10/2014

## 9. Teaching Experience: Courses and Programs

### Featured data:

- **19 Years of teaching experience** in Engineering and Master’s programs at Latin American Universities.
- **83 Courses taught** in Engineering and Master’s programs.
- **Performance in Teaching – Research = 98%**, average value of the last 9 years.
- **Courses on:** Industrial Instrumentation, Automatic Control, Industrial Automation and Robotics, Electronic Systems, and Electrical Circuits.
- **8 Undergraduate and Postgraduate Programs** as an Associate Professor: **Master** in Industry 4.0, **Master** in Artificial Intelligence, **Master** in Control and Automation, **Master** in Engineering for Industry, **Master** in Electric Propulsion, **Master** in Software, Electronics and Telecommunications Engineering, Telecommunications Eng., Informatics and Computer Eng., and Industrial Eng.
- **5 Universities** with which I have collaborated as a professor: UTPL, UTA, ESPOCH, UTMACH, and UES.

No.	University	Program	Course	Start date / End date	Place
1	UTPL	Telecommunications	Instrumentation	Oct 2024 / Feb 2025	Loja, Ecuador
2	UTPL	Telecommunications	Analog Electronics	Oct 2024 / Feb 2025	Loja, Ecuador
3	UTPL	Master in Applied Artificial Intelligence	AI applied to Industry 4.0	Dec 2024 / Jan 2025	Loja, Ecuador
4	UTPL	Industrial	Automation and Control	Apr 2024 / Aug 2024	Loja, Ecuador
5	UTPL	Industrial	Industrial Electronics	Apr 2024 / Aug 2024	Loja, Ecuador
6	UTPL	Telecommunications	Electric Circuits I	Apr 2024 / Aug 2024	Loja, Ecuador
7	UTA	Master in Electric Propulsion Systems	Electronic Control Unit	Feb 2024 / Mar 2024	Ambato, Ecuador
8	UTPL	Telecommunications	Instrumentation	Oct 2023 / Feb 2024	Loja, Ecuador
9	UTPL	Telecommunications	Analog Electronics	Oct 2023 / Feb 2024	Loja, Ecuador
10	UTPL	Industrial	Electricity	Oct 2023 / Feb 2024	Loja, Ecuador
11	UES	Master in Engineering for Industry with a specialization in Computer Science	Industrial Control Systems	Aug 2023 / Sep 2023	San Salvador, El Salvador
12	UTPL	Industrial	Automation and Control	Apr 2023 / Aug 2023	Loja, Ecuador
13	UTPL	Industrial	Industrial Electronics	Apr 2023 / Aug 2023	Loja, Ecuador
1	UTPL	Electronics and Telecommunications	Industrial Robotics	Oct 2022 / Feb 2023	Loja, Ecuador
2	UTPL	Telecommunications	Instrumentation	Oct-2022 / Feb 2023	Loja, Ecuador
3	UTPL	Telecommunications	Analog Electronics	Oct 2022 / Feb-2023	Loja, Ecuador

4	UTA	Master in Electric Propulsion Systems	Electronic Control Unit	Jun 2022 / Jul 2022	Ambato, Ecuador
5	UTPL	Electronics and Telecommunications	Industrial Robotics	Apr 2022 / Aug 2022	Loja, Ecuador
6	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2022 / Aug 2022	Loja, Ecuador
7	UTPL	Industrial	Industrial Electronics	Apr 2022 / Aug 2022	Loja, Ecuador
8	UTPL	Telecommunications	Analog Electronics	Oct 2021 / Feb 2022	Loja, Ecuador
9	UTPL	Telecommunications	Instrumentation	Oct 2021 / Feb 2022	Loja, Ecuador
10	ESPOCH	Master in Control Systems and Industrial Automation	Distributed Control Systems and SCADA	Nov 2021 / Dec 2021	Riobamba, Ecuador
11	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2021 / Aug 2021	Loja, Ecuador
12	UTPL	Industrial	Industrial Electronics	Apr 2021 / Aug 2021	Loja, Ecuador
13	UTPL	Electronics and Telecommunications	Hardware and Software applied to the Industry	Apr 2021 / Aug 2021	Loja, Ecuador
14	UTPL	Telecommunications	Analog Electronics	Oct 2020 / Feb 2021	Loja, Ecuador
15	UTPL	Telecommunications	Instrumentation	Oct 2020 / Feb 2021	Loja, Ecuador
16	UTPL	Electronics and Telecommunications	Instrumentation	Oct 2020 / Feb 2021	Loja, Ecuador
17	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2020 / Aug 2020	Loja, Ecuador
18	UTPL	Electronics and Telecommunications	Instrumentation	Oct 2019 / Feb 2020	Loja, Ecuador
19	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2019 / Aug 2019	Loja, Ecuador
20	UTPL	Electronics and Telecommunications	Instrumentation	Oct 2018 / Feb 2019	Loja, Ecuador
21	UTPL	Electronics and Telecommunications	Basic Electronics	Apr 2018 / Aug 2018	Loja, Ecuador
22	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2018 / Aug 2018	Loja, Ecuador
23	UTPL	Electronics and Telecommunications	Instrumentation	Oct 2017 / Feb 2018	Loja, Ecuador
24	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2017 / Aug 2017	Loja, Ecuador
25	UTPL	Electronics and Telecommunications	Instrumentation	Oct 2016 / Feb 2017	Loja, Ecuador
26	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2016 / Aug 2016	Loja, Ecuador
27	UTPL	Electronics and Telecommunications	Instrumentation	Oct 2015 / Feb 2016	Loja, Ecuador
28	UTPL	Electronics and Telecommunications	Circuit Theory	Oct 2015 / Feb 2016	Loja, Ecuador
29	UTPL	Electronics and Telecommunications	Instrumentation	Oct 2015 / Feb 2016	Loja, Ecuador
30	UTPL	Electronics and Telecommunications	Circuit Theory	Oct 2015 / Feb 2016	Loja, Ecuador
31	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2015 / Aug 2015	Loja, Ecuador

32	UTPL	Electronics and Telecommunications	Introduction to Interactive Humanoid Robotics	Apr 2015 / Aug 2015	Loja, Ecuador
33	UTPL	Electronics and Telecommunications	Final Degree Project	Apr 2015 / Aug 2015	Loja, Ecuador
34	UTPL	Electronics and Telecommunications	Instrumentation	Sep 2014 / Feb 2015	Loja, Ecuador
35	UTPL	Electronics and Telecommunications	Final Degree Project	Sep 2014 / Feb 2015	Loja, Ecuador
36	UTPL	Electronics and Telecommunications	University Physics	Sep 2014 / Feb 2015	Loja, Ecuador
37	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2014 / Aug 2014	Loja, Ecuador
38	UTPL	Electronics and Telecommunications	Final Degree Project	Apr 2014 / Aug 2014	Loja, Ecuador
39	UTPL	Electronics and Telecommunications	Instrumentation	Sep 2013 / Feb 2014	Loja, Ecuador
40	UTPL	Electronics and Telecommunications	Final Degree Project	Sep 2013 / Feb 2014	Loja, Ecuador
41	UTPL	Informatics and Computer	Computing	Sep 2013 / Feb 2014	Loja, Ecuador
42	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2013 / Aug 2013	Loja, Ecuador
43	UTPL	Electronics and Telecommunications	Pre-professional Practices IV	Apr 2013 / Aug 2013	Loja, Ecuador
44	UTPL	Electronics and Telecommunications	Pre-professional Practices IV	Sep 2012 / Feb 2013	Loja, Ecuador
45	UTPL	Electronics and Telecommunications	Instrumentation	Sep 2012 / Feb 2013	Loja, Ecuador
46	UTPL	Electronics and Telecommunications	Virtual Instrumentation	Apr 2012 / Aug 2012	Loja, Ecuador
47	UTPL	Electronics and Telecommunications	Pre-professional Practices III	Apr 2012 / Aug 2012	Loja, Ecuador
48	UTPL	Electronics and Telecommunications	Automatic Control Theory	Apr 2012 / Aug 2012	Loja, Ecuador
49	UTPL	Electronics and Telecommunications	Circuit Theory	Sep 2011 / Feb 2012	Loja, Ecuador
50	UTPL	Electronics and Telecommunications	Instrumentation	Sep 2011 / Feb 2012	Loja, Ecuador
51	UTPL	Electronics and Telecommunications	Pre-professional Practices III	Sep 2011 / Feb 2012	Loja, Ecuador
52	UTPL	Electronics and Telecommunications	Pre-professional Practices III	Mar 2011 / Aug 2011	Loja, Ecuador
53	UTPL	Electronics and Telecommunications	Virtual Instrumentation	Mar 2011 / Aug 2011	Loja, Ecuador
54	UTPL	Informatics and Computer	Digital Systems	Mar 2011 / Aug 2011	Loja, Ecuador
55	UTPL	Electronics and Telecommunications	Circuit Theory	Sep 2010 / Feb 2011	Loja, Ecuador
56	UTPL	Electronics and Telecommunications	Pre-professional Practices III	Sep 2010 / Feb 2011	Loja, Ecuador
57	UTPL	Electronics and Telecommunications	Virtual Instrumentation	Mar 2010 / Aug 2010	Loja, Ecuador
58	UTPL	Electronics and Telecommunications	Electronic Systems	Mar 2010 / Aug 2010	Loja, Ecuador
59	UTPL	Electronics and Telecommunications	General Circuit Theory	Sep 2009 / Feb 2010	Loja, Ecuador

60	UTPL	Electronics and Telecommunications	Electronic Systems	Mar 2009 / Aug 2009	Loja, Ecuador
61	UTPL	Electronics and Telecommunications	Virtual Instrumentation	Mar 2009 / Aug 2009	Loja, Ecuador
62	UTPL	Electronics and Telecommunications	General Circuit Theory	Sep 2008 / Feb 2009	Loja, Ecuador
63	UTPL	Electronics and Telecommunications	Electronic Systems	Mar 2008 / Aug 2008	Loja, Ecuador
64	UTPL	Electronics and Telecommunications	Virtual Instrumentation	Mar 2008 / Aug 2008	Loja, Ecuador
65	UTPL	Electronics and Telecommunications	General Circuit Theory	Sep 2007 / Feb 2008	Loja, Ecuador
66	UTPL	Electronics and Telecommunications	Circuit Theory I	Mar 2007 / Aug 2007	Loja, Ecuador
67	UTPL	Electronics and Telecommunications	Circuit Theory II	Sep 2006 / Feb 2007	Loja, Ecuador
68	UTPL	Electronics and Telecommunications	Introduction to Computers	Mar 2006 / Aug 2006	Loja, Ecuador
69	UTPL	Electronics and Telecommunications	General Signal Theory	Mar 2006 / Aug 2006	Loja, Ecuador
70	UTPL	Electronics and Telecommunications	Programming Language	Sep 2005 / Feb 2006	Loja, Ecuador

## 10. Thesis projects Advisor: Undergraduate and Postgraduate

### Featured data:

- **47 Supervised Theses in Engineering and Master's Programs.**

No.	Thesis	Program - University	Program	Año	Link
1	Industrial robotic arm control system based on reinforcement learning applied to object manipulation.	Master in Applied Artificial Intelligence	<b>Postgraduate</b>	2025	--
2	Technological system applied to the digitalization of industrial maintenance processes.	Telecommunications Engineering - UTPL	Undergraduate	2025	--
3	Industrial Maintenance Management System to increase the efficiency of the production process.	Industrial Engineering - UTPL	Undergraduate	2025	--
4	Design and Implementation of an Industrial Control System applied to the operation of a Robot Arm by means of a Programmable Logic Controller.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2024	Pending
5	Control system applied to the trajectory tracking of an industrial robotic arm for quality control of material cutting processes.	Telecommunications Engineering - UTPL	Undergraduate	2024	Pending

6	Control system based on Artificial Intelligence applied to the trajectory tracking of an industrial robotic arm for cutting materials.	Telecommunications Engineering - UTPL	Undergraduate	2024	Pending
7	Image processing for the classification of coffee beans by shape and color.	Master in Software - UTMACH	<b>Postgraduate</b>	2023	Pending
8	Technological architecture and methodology for the management of the production process of the Cafrilosa food industry.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2023	Pending
9	Data acquisition, recording and processing system oriented to Industry 4.0 applications.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2023	Pending
10	Technological architecture and methodology for the management of the production process of the Cafrilosa food industry.	Industrial Engineering - UTPL	Undergraduate	2023	Pending
11	System based on Internet of Medical Things (IoMT) applied to the study of Scoliosis.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2023	Pending
12	3D printing system based on an industrial robotic arm applied to the digital fabrication of housing.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2023	Pending
13	Object identification, collection and manipulation system based on a 6-axis Industrial Robot Arm.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2022	Pending
14	Development of an application for mobile devices that allows to control and monitor a three-phase electric motor.	Informatics Engineering - UTPL	Undergraduate	2022	<a href="#">Link</a>
15	Data acquisition and recording system, based on architectures compatible with Industry 4.0, applied to the company Cafrilosa.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2022	<a href="#">Link</a>
16	Methodological model of a Remote Laboratory of Industrial Robotics and Industry 4.0 applied to improve the learning of Engineering students of the UTPL.	Master in Control Systems and Industrial Automation - ESPOCH	<b>Postgraduate</b>	2022	Pending
17	Automatic coffee sorting system based on an Industrial Robotic arm and vision machine.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2022	<a href="#">Link</a>
18	System based on Wearable Sensors and IoT for remote monitoring of a person's biomechanical profile.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2021	<a href="#">Link</a>
19	Implementation of an automation system based on the EPSON industrial Robotic Arm.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2021	<a href="#">Link</a>
20	Remote Industrial Internet of Things (IIoT) laboratory based on PLCs and sensors.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2021	<a href="#">Link</a>
21	Methodology for the development of automatic diagnostic programs for electronic boards for the Level III Electronic Maintenance Center.	Informatics Engineering - UTPL	Undergraduate	2021	<a href="#">Link</a>
22	Design, implementation and evaluation of control strategies and architectures applied to an automatic distillation equipment.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2021	<a href="#">Link</a>
23	Design and implementation of an autonomous prototype for measuring vehicle speed, based on a Doppler effect sensor.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2020	<a href="#">Link</a>

24	Comparative evaluation and analysis of the tuning, optimization and approximation strategies of Fractional Order Controllers applied to mechatronic systems.	Master in Control Systems and Industrial Automation - ESPOCH	<b>Postgraduate</b>	2020	<a href="#">Link</a>
25	Development of machine learning algorithms based on open-hardware and open-software platforms, applied to an inclusive basic education module.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2019	<a href="#">Link</a>
26	Design and develop a portable vision machine applied to the automatic supervision of educational games for visually impaired children.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2018	<a href="#">Link</a>
27	Design and development of an embedded system for identification of EMG signal patterns based on machine learning algorithms.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2018	<a href="#">Link</a>
28	Design and develop an embedded controller based on PID applied to the force regulation of a Robotic Hand.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2017	<a href="#">Link</a>
29	Design, implementation and performance analysis of a fractional order PID controller (FOPID) applied to embedded control of mechatronic systems.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2017	<a href="#">Link</a>
30	Design and implementation of a high performance Power Quality Analyzer, based on CompactRIO FPGA technology.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2016	<a href="#">Link</a>
31	Design and construction of an electronic dispenser applied to the food sanitation chemical industry.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2016	<a href="#">Link</a>
32	Automatic location system applied to the fleet of vehicles for collecting and transporting Municipal Solid Waste of the GADML.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2016	<a href="#">Link</a>
33	Design, implementation and validation of the automatic control system applied to the grip and manipulation of objects of a Robotic Hand.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2016	<a href="#">Link</a>
34	Design and implementation of the 3D profile measurement system, applied to the blades of the Pelton turbines of the Paute Molino Hydroelectric Plant.	Informatics Engineering - UTPL	Undergraduate	2016	<a href="#">Link</a>
35	Repowering and automation of a three-axis Plasma Cutting Table.	Informatics Engineering - UTPL	Undergraduate	2016	<a href="#">Link</a>
36	Implementation of a prototype Power Quality Analyzer for a three-phase network.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2014	<a href="#">Link</a>
37	Synthesis and validation of methodologies and algorithms for the determination of electrical Power Quality parameters.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2014	<a href="#">Link</a>
38	Design of the technological process for automatic classification of Municipal Solid Waste containers.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2013	<a href="#">Link</a>
39	Expansion of the data acquisition and analysis system for tests of the Soil Mechanics Laboratory of the Technical University of Loja.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2012	<a href="#">Link</a>

40	Modeling and simulation of the turbine-generator-load system of an autonomous hydroelectric pico plant, for analysis of generation parameters.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2012	<a href="#">Link</a>
41	Design and implementation of a remote monitoring system for hydraulic variables of the UTPL Drinking Water Network, using the GPRS platform.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2012	<a href="#">Link</a>
42	Design and implementation of a telemetry system for weather monitoring through the use of the GPRS cellular network.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2011	<a href="#">Link</a>
43	Implementation of a data acquisition, storage and analysis system to determine the infiltration rate of water in pilot plots for crops.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2011	<a href="#">Link</a>
44	Automation of the Materials Testing System MTS for load and deformation tests.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2010	<a href="#">Link</a>
45	Design and development of a Humanoid Robot control system integrated into an image acquisition system.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2009	<a href="#">Link</a>
46	Design and implementation of an equipment for perforating printed circuit boards by means of numerical control.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2008	<a href="#">Link</a>
47	Design and implementation of a robot capable of recognizing and classifying objects using Artificial Vision.	Electronics and Telecommunications Engineering - UTPL	Undergraduate	2008	<a href="#">Link</a>

## 11. Awards and Honors

### Featured data:

- **15 Awards and Honors due to outstanding contributions.**
- **8 Awards** due to outstanding contributions to **Innovation**. **4 Awards** due to outstanding contributions to **Research**.
- **3 Awards** granted by **International Institutions**.
- **5 Awards** granted by **Government Organizations**.

No.	Honor / Award	Type - Coverage	Awarded by	City	Date
1	<i>"Best Academic Inventor 2024" National Award.</i> Awarded for generating relevant results in Innovation and Research.	Institution - National	Ecuadorian Corporation for the Development of Research and the Academy (CEDIA)	Cuenca, Ecuador	25/4/2024
2	<i>"Best Academic Inventor 2022" National Award.</i> Awarded for generating relevant results in Innovation and Research.	Institution - National	Ecuadorian Corporation for the Development of Research and the Academy (CEDIA)	Cuenca, Ecuador	29/4/2022

3	<i>"2021 SIGHT Volunteer of the Year, Honorable Mention"</i> . Recognition, due to your contributions to IEEE SIGHT, and the many humanitarians technology and sustainable development related activities you have led or participated.	Institution - International	IEEE Special Group on Humanitarian Technology (SIGHT)	New Jersey, USA	17/12/2021
4	<i>"Recognition of the trajectory of Young Professionals"</i> . For his outstanding contributions to science, technology and, innovation; and their implications at the national and international level.	Institution - National	Institute of Electrical and Electronics Engineers (IEEE) Ecuador Section	Guayaquil, Ecuador	27/11/2021
5	<i>Recognition "Inspiring Teacher of the UTPL"</i> . For teaching with the highest human values and for being an example of inspiration for his students.	Institution - Local	Universidad Técnica Particular de Loja	Loja, Ecuador	23/6/2021
6	<i>"IEEE Senior Member"</i> . In recognition of professional standing and of significant contributions to the profession.	Institution - International	Institute of Electrical and Electronics Engineers (IEEE)	New Jersey, USA	15/8/2020
7	<i>"Best Academic Inventor 2020" National Award</i> . Awarded for generating relevant results in Innovation and Research.	Institution - National	Ecuadorian Corporation for the Development of Research and the Academy (CEDIA)	Cuenca, Ecuador	24/4/2020
8	<i>"Ecuador Innova" Honor</i> . Recognition was achieved for its contribution to the technological development of the Country.	Government - National	Vice Presidency of the Republic of Ecuador	Quito, Ecuador	1/6/2014
9	<i>Gold Medal Winner in the international competition Infomatrix World Final</i> . Award achieved for implementing an innovative and social robotic system.	Institution - International	Infomatrix, Ministerul Educatiei Nationale Rumana, Fundatia Lumina	Bucharest, Rumania	12/5/2014
10	<i>"Clodoveo Carrión Mora" Honor to the Scientific merit</i> . Awarded for his scientific contribution to the Loja Province and the Country.	Government - National	Prefect and Provincial Government of Loja.	Loja, Ecuador	18/9/2014
11	<i>"Pío Jaramillo Alvarado" Honor to the Scientific merit</i> . Awarded for its contribution to the scientific development of the Loja Canton.	Government - National	Mayor and Municipal Government of the Loja Canton.	Loja, Ecuador	18/11/2014
12	<i>Public recognition for achievements in the field of Robotics</i> , for the Loja Canton.	Government - National	Mayor and Municipal Government of the Loja Canton.	Loja, Ecuador	16/6/2011
13	<i>Honor: Illustrious Characters of the Puyango Canton</i> . Achieved recognition for their contribution to technological innovation.	Government - Local	Mayor and Municipal Government of the Puyango Canton.	Puyango-Loja, Ecuador	18/1/2016
14	Winner of the Institutional Contest <i>"I Innova UTPL"</i> . Recognized as the best innovative project in educational technology.	Institution - Local	Universidad Técnica Particular de Loja (UTPL)	Loja, Ecuador	31/5/2017

15	<i>Honorable Mention and Recognition</i> for their contribution to Social Development through technology.	Institution - Local	Secondary School "Julio Isaac Espinosa Ochoa"	Puyango- Loja, Ecuador	28/10/2016
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## Team Awards

No.	Team Honor / Award	Type	Coverage	Awarded by	City	Date
1	<i>2020 MGA Outstanding Medium Section Award.</i>  Carlos Calderón is part of the Executive Committee of the IEEE Ecuador Section, 2020-2021.	Institution	International	IEEE	New Jersey, USA	14/7/2021
2	<i>IEEE SIGHT Group of the year Award 2020, Honorable Mention.</i>  Carlos Calderón is the Chair of SIGHT Group Ecuador Section, 2020-2021.	Institution	International	IEEE SIGHT	New Jersey, USA	22/2/2021
3	<i>IEEE Latin America Regional "Best Achievement of the Year" Award. "Summer Camps" Project.</i>  Carlos Calderón is part of the organizing and executing team of the winning project.	Institution	International	IEEE Region 9, Latin America	Lima, Peru	14/3/2020
4	<i>Outstanding Section Award of IEEE Latin America Region.</i>  Carlos Calderón is part of the Executive Committee of the IEEE Ecuador Section, 2020-2021.	Institution	International	IEEE Region 9, Latin America	Lima, Peru	14/3/2020
5	<i>"Outstanding Research Group" UTPL Award.</i> The CONSYS Research Group, is recognized for its results in Research and Technology Transfer. Carlos Calderón is the Director of the CONSYS Research Group.	Institution	Local	Universidad Técnica Particular de Loja (UTPL)	Loja, Ecuador	2/10/2018

## 12. Media Presence

### Featured data:

- **82 Impacts of R&D+I Projects in the media.**
- **59 Impacts in the media with National coverage.**
- **28 Impacts in the Newspaper-type media.**
- **31 Impacts in the Internet-type media.**

Note.- The titles of the press articles in the following table are in Spanish, because the original version is in that language.

No.	Title	Type of Media	Media Name	Coverage	Edition Date
1	Docente UTPL destaca en premio internacional de voluntariado en tecnología humanitaria	Magazine	Revista Gestión	National	26/8/2022
2	Docente UTPL destaca en premio internacional de voluntariado en tecnología humanitaria	Internet media	Prensa.ec	National	26/8/2022
3	Ecuatoriano logra mención de honor en Premio global al Voluntario del Año	Internet media	Ecuador Comunicación	National	3/9/2022
4	Ecuatoriano logra mención de honor en Premio global al Voluntario del Año	Newspaper	El Diario	National	3/9/2022
5	Reconocen labor en la ciencia de científico ecuatoriano	Newspaper	Diario Metro Ecuador	National	5/9/2022
6	Ecuatoriano logra mención de honor en Premio global al Voluntario del Año	Newspaper	Diario El Siglo de Durango	International	3/9/2022
7	Investigador ecuatoriano consigue mención de honor en Premio global al Voluntario del Año	Newspaper	Diario El Comercio	National	4/9/2022
8	Docente recibió reconocimiento en premio internacional de voluntariado en tecnología humanitaria	Magazine	IT ahora	National	1/9/2022
9	Carlos Calderón destaca en premio internacional	Newspaper	Diario La Hora	National	25/8/2022
10	Ecuatoriano es reconocido como 'voluntario del año' en Nueva York	Magazine	Forbes Ecuador	National	24/8/2022
11	Orgullo UTPL: Carlos Calderón destaca en premio internacional	Radio	Radio Planeta Sur	Local	25/8/2022
12	Docente UTPL destaca en premio internacional de voluntariado en tecnología humanitaria	Internet media	Noticias UTPL	National	3/8/2022
13	Carlos Calderón, docente de la Maestría de Sistemas de Propulsión Eléctrico de la UTA	Radio	Radio Primicias UTA	Local	26/5/2022
14	Proyectos de Industria 4.0 en el Laboratorio de Robótica de la UTPL.	Radio	Radio Cómplice de Cuenca	National	11/6/2022
15	Los cobots se abren paso en la industria gracias a su capacidad tecnológica y versatilidad	Newspaper	Diario El Universo	National	15/11/2021
16	UTPL aporta al sector industrial con laboratorio de Robótica.	Internet media	ComunicaEC	National	9/11/2021
17	UTPL aporta al sector industrial con laboratorio de Robótica	Internet media	Ecuapaginas.com	National	26/11/2021
18	UTPL aporta al sector industrial con laboratorio de Robótica	Internet media	Noticias UTPL	Local	1/10/2021
19	IEEE Ecuador otorga el Reconocimiento a la Trayectoria de jóvenes profesionales a Docente de la UTPL.	Newspaper	Diario La Hora	National	3/12/2021
20	IEEE Ecuador otorga el Reconocimiento a la Trayectoria de jóvenes profesionales a Docente de la UTPL	Radio	WG Milenio 92.5	Local	3/12/2021

21	IEEE Ecuador otorga el Reconocimiento a la Trayectoria de jóvenes profesionales a Docente de la UTPL.	Internet media	Visto Loja	Local	2/12/2021
22	Docente de UTPL recibe Reconocimiento a la Trayectoria de jóvenes profesionales.	Internet media	Lo del Momento Loja	Local	2/12/2021
23	Carlos Calderón, docente de Telecomunicaciones, con Reconocimiento a su Trayectoria de Jóvenes Profesionales.	Newspaper	Diario Crónica	Local	2/12/2021
24	Carlos Calderón, docente de la UTPL, obtuvo el Reconocimiento a la Trayectoria de Jóvenes Profesionales.	Internet media	Atta	Local	2/12/2021
25	Docente de UTPL recibe Reconocimiento de IEEE por su Trayectoria profesional y contribución académica al país.	Internet media	Noticias UTPL	National	1/12/2021
26	Programa radial Disruptivo. Tema: Desarrollo Productivo mediante la Transformación Digital. Carlos Calderón, invitado especial.	Radio	Radio La Chismosa FM 104.1	National	7/11/2021
27	UTPL moderniza su laboratorio de Robótica con apoyo de EPSON	Internet media	Dialoguemos.ec	National	8/10/2021
28	UTPL aporta al sector industrial con laboratorio de Robótica	Internet media	Noticias UTPL	National	1/10/2021
29	Entrevista a Carlos Calderón sobre la aplicación de la tecnología al Sector Productivo. Programa: Sur Noticias, primera emisión.	Television	Canal Sur Loja	Local	23/9/2021
30	Carlos Calderón, investigador con valiosos aportes sociales. Su trayectoria gira en torno a la Investigación, Innovación y Vinculación con la sociedad.	Newspaper	Diario La Hora	National	20/9/2021
31	Entrevista Carlos Calderón.	Radio	Radio Municipal 90.1	Local	15/1/2021
32	¿Cómo se forma un científico desde la infancia hasta la Universidad?. Programa: Escritorio de Einstein (# 107).	Radio	Radio Visión de Quito	National	5/10/2020
33	Carlos Calderón: El país necesita innovar y crear. Sección Empresarial.	Newspaper	Diario Metro Ecuador	National	30/9/2020
34	Feria Nacional de Invenciones: Ganadores. Ganadores de la Feria Nacional de Invenciones.	Magazine	Connect CEDIA	National	1/8/2020
35	CEDIA Celebra el Día Mundial de la Propiedad Intelectual en Ecuador. Ganadores de los Premios de Innovación.	Magazine	Campus CEDIA	National	1/6/2020
36	Entrevista Carlos Calderón, mejor Inventor Académico.	Television	Ecotel TV	Local	8/5/2020
37	Entrevista Carlos Calderón, mejor Inventor Académico.	Television	Plus TV	Local	8/5/2020
38	Conoce acerca de la TISP Week en UTPL. IEEE TISP (Teacher in Service Program). Revista digital: MagazIEEE Ecuador.	Magazine	MagazIEEE Ecuador	National	28/12/2019
39	IEEE Summer Camps Ecuador 2019. Dos campamentos vacacionales de robótica ejecutados en Loja por UTPL.	Internet media	IEEE Young Professionals Ecuador	National	27/10/2019
40	Carlos Calderón y Aranzazu Cisneros comparten su experiencia como Speakers de TEDx UTPL.	Internet media	TEDx UTPL	Local	11/1/2019

41	Proyectos de Robótica. Programa: Cara a Cara con Rosalía.	Television	Telerama	National	29/7/2018
42	Entrevista sobre Tecnología y Robótica. Programa conducido por Andrés López.	Radio	Radio Visión de Quito	National	20/6/2018
43	Entrevista a Carlos Calderón, Coordinador del Laboratorio de prototipado en Electrónica y Robótica. Programa: La Nota UTPL.	Internet media	Noticias UTPL	Local	11/6/2018
44	Proyectos Inclusivos: AXE, visión artificial. Sección: Estudios Superiores.	Magazine	Revista Vistazo	National	8/3/2018
45	Charla: Conectar profesión y propósito   Carlos Calderón   TEDxUTPL. Canal YouTube TEDx Talks.	Internet media	YT Channel TEDx Talks	International	29/11/2017
46	Recursos de enseñanza para niños con discapacidad visual	Internet media	Noticias UTPL	National	7/11/2017
47	Axes, proyecto de apoyo para escolares con discapacidad visual. Programa: Cara a Cara con Rosalía.	Television	Telerama	National	30/10/2017
48	Axes, proyecto de apoyo para escolares con discapacidad visual.	Internet media	YT Channel UTPL	National	30/10/2017
49	Charla: Liderar, del dicho al hecho   Diálogos y Conexiones UTPL.	Internet media	YT Channel UTPL	National	20/9/2017
50	Ecuador: UTPL colabora con empresa para desarrollar proyecto tecnológico. Página web: Red Universidad Empresa. Sección Vinculación y Transferencia.	Internet media	Red Universidad Empresa	International	11/7/2016
51	Una mano robótica desarrolla en Universidad lojana.	Newspaper	Diario El Universo	National	1/2/2016
52	Artista, estudiantes y docentes de UTPL crean mano robótica recubierta con piel sintética	Newspaper	Diario El Universo	National	20/12/2015
53	Bioarte para recubrir una mano robótica.	Newspaper	Diario El Comercio	National	13/12/2015
54	Loja será la primera ciudad del Ecuador en la que se podrá pagar transporte urbano con dnero electrónico	Internet media	ZRS Noticias	National	12/3/2015
55	Dinero electrónico se usará en el transporte público de Loja. La parte tecnológica está a cargo de la empresa lojana KRADAC.	Newspaper	Diario El Universo	National	12/3/2015
56	Documental: Innovadores, inventos hechos por los Ecuatorianos. Programa: Los Reporteros.	Television	Ecuador TV	National	10/12/2014
57	Municipio reconoce a ciudadanos destacados.	Newspaper	Diario La Hora	National	19/11/2014
58	Personajes destacados recibieron reconocimientos en Sesión Solemne.	Newspaper	Diario Crónica	Local	19/11/2014
59	Prefectura celebra 155 años del federalismo. Carlos Calderón Agradeció a nombre de los homenajeados.	Newspaper	Diario La Hora	National	19/9/2014
60	Enlace Ciudadano 370 del Gobierno Nacional, desde Tonchigue, Esmeraldas. Nota sobre Inventores creadores del brazo robótico.	Internet media	YT Channel Presidencia de la República del Ecuador	National	28/6/2014
61	Vicepresidente Jorge Glas se reunió con ganadores del concurso de Infomatrix.	Newspaper	Diario El Ciudadano	National	18/6/2014

62	Enlace Ciudadano 374 del Gobierno Nacional, desde La Merced, Quito. Segmento Ecuador en Positivo. La mano de esperanza cautivó en Concurso Internacional.	Internet media	YT Channel El Ciudadano	National	17/5/2014
63	Prototipo de mano robótica diseñada por estudiantes ecuatorianos será adaptada como prótesis. Página web: Agencia Andes (Agencia pública de noticias del Ecuador y Suramérica).	Internet media	Agencia Andes	International	16/5/2014
64	Ecuador ganó 5 medallas en el Mundial de Robótica Infomatrix 2014.	Newspaper	Diario El Ciudadano	National	16/5/2014
65	Estudiantes lojanos presentarán su proyecto de prótesis robótica en Rumania. Programa: Noticiero 24 Horas.	Television	Teleamazonas	National	30/4/2014
66	Jóvenes lojanos de la UTPL trabajan en prototipo de mano robótica. Programa: El Ciudadano.	Television	Ecuador TV	National	25/4/2014
67	Enlace Ciudadano 370 del Gobierno Nacional, desde Durán, Guayas. Nota sobre Ecuatorianos ganadores de Premio Internacional.	Internet media	YT Channel Presidencia de la República del Ecuador	National	22/4/2014
68	Universitarios presentan proyecto robótico. Entrevista a los autores en el Palacio de Carondelet. Segmento Vicepresidencia Crece.	Internet media	YT Channel Vicepresidencia Ecuador	National	14/4/2014
69	Tecnología se toma Loja (in Cover). La impresión 3D toma forma en Loja (Technology section).	Newspaper	Diario La Hora	National	5/4/2014
70	Dos jóvenes desarrollan un brazo robótico de bajo costo.	Newspaper	Diario Expreso	National	25/3/2014
71	Ahora, ellos representarán a Latinoamérica.	Newspaper	Diario Expreso	National	25/3/2014
72	Loja: Dos estudiantes crean prótesis robótica.	Newspaper	Diario El Mercurio	National	20/3/2014
73	Niños lojanos elaboran sus robots. Taller vacacional Genios desarrollado por la empresa KRADAC.	Newspaper	Diario Crónica	Local	21/8/2013
74	Niños se vincularon con la tecnología. La UTPL promovió la Feria de Ciencia Recreativa.	Newspaper	Diario La Hora	National	2/7/2013
75	Día del Internet se celebró en la UTPL.	Newspaper	Diario Crónica	Local	21/5/2013
76	Estudiantes de la UTPL deslumbraron con su Robot imitador en Campus Party.	Internet media	Ecuador Universitario	National	24/9/2012
77	La Robótica da un triunfo a Loja. La empresa KRADAC, nacida en el Valle de Tecnología UTPL, ganó.	Newspaper	Diario La Hora	National	20/3/2012
78	Reconocimiento del Municipio de Loja a la empresa KRADAC.	Internet media	Noticias Municipio de Loja	Local	7/8/2011
79	UTPL se destaca en Concurso de Robótica. La UTPL obtuvo segundo lugar en el Sexto Concurso Nacional de Robótica.	Newspaper	Diario La Hora	National	5/7/2011

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