Moses (Yu Hei) Chan updated on July 17, 2024

Contact Information

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Employment

Northwestern University, Evanston, IL
Department of Industrial Engineering and Management Sciences
12/2023 – present Assistant Professor of Instruction
09/2023 – 11/2023 Lecturer

Education

Northwestern University, Evanston, IL
2023 PhD in Industrial Engineering and Management Sciences
Dissertation: "High-dimensional Gaussian process methods for uncertainty quantification"
Committee: Prof. Matthew Plumlee (Chair), Prof. Barry Nelson, Dr. Stefan Wild
2018 MS in Industrial Engineering and Management Sciences

University of Michigan, Ann Arbor, MI
2014 MSE in Industrial and Operations Engineering
2013 BSE in Industrial and Operations Engineering

Teaching

Northwestern University, Evanston, IL
Instructor

IEMS 303: Statistics	W23, F23, W24
DATA_ENG 200: Foundations of Data Science	Sp24
DATA_ENG 300: Data Engineering Studio	W24

Teaching Assistant

IEMS 303: Statistics	Sp19, F22
IEMS 315: Stochastic Models	W19
IEMS 340: Field Project Methods (Qualitative Research Methods)	W22

University of Michgian, Ann Arbor, MI
Graduate Student Instructor
IOE 303: Ergonomics W14

Publications

Odell, D., Giuliani, P., Beyer, K., Catacora-Rios, M., **Chan, M. Y.-H.**, Bonilla, E., Furnstahl, R. J., Godbey, K., and Nunes, F. M. (2024). ROSE: A reduced-order scattering emulator for optical models. *Physical Review C*, 109(4), 044612.

Chan, M. Y.-H. (2023). High-Dimensional Gaussian Process Methods for Uncertainty Quantification (Doctoral dissertation, Northwestern University).

Chan, M. Y.-H., Plumlee, M., and Wild, S. M. (2023). Constructing a simulation surrogate with partially-observed output. *Technometrics.*

Chan, M. Y. H., Malik, S. A., Hallstrom, B. R., and Hughes, R. E. (2016). Factors affecting readmission cost after primary total knee arthroplasty in Michigan. *The Journal of Arthroplasty*, 31(6):1179–1182.

Scheinberg, N., Zhang, B., Raschid, L., Mwenesi, R., Grum, M., **Chan, M.**, Cohn, A., DeRosier, J., and Bagian, J. (2017). A systematic approach to improve the reprocessing of surgical instruments. *In Advances in Human Factors and Ergonomics in Healthcare*, 275–286. Springer.

Software

Packages

BANDFramework, an open-source framework for Bayesian analysis of nuclear dynamics.

surmise, a Python modular package for statistical emulation and calibration.

LCGP, an emulator strategy for multivariate stochastic simulations.

ROSE, a Python package for emulating nuclear scattering observables.

Computing skills

Python, PyTorch, Git/Github, R, MATLAB

Presentations

Invited Talks

Chan, M. Y. H., and Plumlee, M. "Simulation surrogate for stochastic high-dimensional outputs with heterogeneous error" at INFORMS Annual Meeting, Phoenix AZ, 2023.

Chan, M. Y. H., and Plumlee, M. "Applying variational inference on high-dimensional Gaussian processes with inducing points" at INFORMS Annual Meeting, Indianapolis IN, 2022.

Chan, M. Y. H., Plumlee, M., and Wild, S. M. "Constructing simulation surrogate with partially observed output" at BAND Camp, in association with ISNET v8, East Lansing MI, 2021.

Contributed Talks

Chan, M. Y.-H., and Plumlee, M. "Heterogeneous multi-output Gaussian process for noisy computer models" at SIAM Annual Meeting, Spokane WA, 2024.

Chan, M. Y. H., Plumlee, M., and Wild, S. M. "Bayesian surrogate constructions for calibration of expensive simulation model" at INFORMS Annual Meeting, Anaheim CA, 2021.

Chan, M. Y. H., Rothberg, A., Herman, W., and Cohn, A. "Outpatient scheduling for an endocrinology clinic" at IIE Annual Conference & Expo, Nashville TN, 2015.

Chan, M. Y. H., Rothberg, A., Herman, W., and Cohn, A. "Improving access to an outpatient endocrinology clinic" at INFORMS Healthcare Conference, Nashville TN, 2015.

Chan, M. Y. H., Rothberg, A., and Cohn, A. "Ensuring timely access and adequate capacity for an endocrinology clinic" at INFORMS Annual Meeting, Philadelphia PA, 2015.

Posters

Chan, M. Y. H., and Plumlee, M. "Applying variational inference on high-dimensional Gaussian process with inducing points" at IMSI Gaussian Process Workshop, Chicago IL, 2022.

Chan, M., Tam, G., Cohn, A., Rothberg, A., and Herman, W. "Patient scheduling and capacity assessment for an endocrinology clinic" at Healthcare Systems Process Improvement Conference, Society for Health Systems, Orlando FL, 2015.

Other Employment

University of Michigan, Ann Arbor, MI
Center for Healthcare Engineering and Patient Safety
2015 – 2016 Research Associate

University of Michigan Health System, Ann Arbor, MI
Department of Orthopaedic Surgery
2014 – 2016 Research Assistant

Professional Affiliation and Service

IISE Transactions
Referee

INFORMS
2023 Session chair for QSR cluster community committee choice session
2020 – 2023 Student member

SIAM
2021 – 2023 Student member

INFORMS Early Career Teachers' Network
2023 Member of planning committee
2022 Member

INFORMS Student Chapter, Northwestern University, Evanston, IL
2019 – 2020 President
2018 – 2019 Secretary
Chapter received INFORMS magna cum laude student chapter award in 2020.

Awards and Honors

Dept. of Industrial Engineering and Management Sciences, Northwestern University

- 2020 Student Leadership Award
- 2019 Best Teaching Assistant Award
- 2018 Arthur P. Hurter Award for outstanding excellence among first-year graduate students
- 2017 Walter P. Murphy Graduate Fellowship