Anant Maheshwari

PhD Student · Wellcome Sanger Institute & University of Cambridge

am86@sanger.ac.uk | https://anant-maheshwari.owlstown.net/ | https://www.linkedin.com/in/anant-maheshwari/ |

1st-year PhD Student at the Wellcome Sanger Institute, interested in computational genomics, pangenome graphs, evolution, cancer biology and algorithmic graph theory/machine learning. Interested in improving human health alongside our understanding of the natural world.

Education

Wellcome Sanger Institute & University of Cambridge *Cambridge, UK*

PhD Biological Sciences *October 2024 - present*

- Rotation 1: Structural variant detection algorithms for enhancer scrambling experiments. **Parts Group**
- Rotation 2: Pangenome graphs to uncover genetic diversity of *Anopheles Funestus*. **Lawniczak Group, Durbin Group**
- Rotation 3: Epi-mutational signatures of blood cancers. **Nangalia Group**

University of Waterloo *Waterloo, Canada*

Bachelor of Computer Science Co-operative Education Program *2017 - 2022*

- Minor in Biology, Minor in Combinatorics and Optimization

Professional Experience

2022-2024	**Associate Computational Biologist, Popic Lab**, Broad Institute of MIT & Harvard
2021-2022	**Visiting Undergraduate Student, Popic Lab**, Broad Institute of MIT & Harvard
2020-2021	**Algorithms Research Intern in Data Server, Network Flow & GPU Acceleration**, Kinaxis (Supply-Chain Software Company)
2019	**Computational Cancer Genomics Intern, Shlien Lab**, Genetics & Genome Biology, The Hospital for Sick Children, Toronto
2018	**Research Assistant, Biology and Engineering R&D Teams**, Spartan Bioscience DNA-testing startup (acquired by Genomadix)

Publications

Battistella, E., **Maheshwari, A.**, Ekim, B., Berger, B., Popic, V. 2025. Ralphi: A Deep Reinforcement Learning Framework for Haplotype Assembly. In *Proceedings of the 29th International Conference on Research in Computational Molecular Biology (RECOMB)* **Best Paper Award**.

Koeppel, J., Murat, P., Girling, G., Peets, E.M., Gouley, M., Rebernig, V., **Maheshwari, A.**, et al. 2025. Resolution of a human super-enhancer by targeted genome randomisation. *bioRxiv*. bioRxiv:10.1101/2025.01.14.632548v1.

Popic, V., Rohlicek, C., Cunial, F., Hajirasouliha, I., Meleshko, D., Garimella, K., **Maheshwari, A.** 2023. Cue: a deep-learning framework for structural variant discovery and genotyping. *Nature Methods*, **20**(3): 559–568. doi:10.1038/s41592-023-01799-x.

Comitani, F., Nash, J.O., Cohen-Gogo, S., Chang, A., Wen, T., **Maheshwari, A.**, et al. 2023. Diagnostic classification of childhood cancer using multiscale transcriptomics. *Nature Medicine*, **29**(3): 656–666. doi:10.1038/s41591-023-02221-x.

Anderson, N.D., Babichev, Y., Fuligni, F., Comitani, F., Layeghifard, M., Venier, R., Dentro, C., **Maheshwari, A.**, et al. 2021. Lineage-defined leiomyosarcoma subtypes emerge years before diagnosis and determine patient survival. *Nature Communications*, **12**: 4496. doi:10.1038/s41467-021-24677-6.

Service and Outreach

SHAD Enrichment Program *Carleton University, Canada*

Program Assistant *Summer 2024*

- Taught a course titled “Interrogating the Human Genome” to high school students from across Canada.

RECOMB 2025, ISMB 2024

Peer Reviewer