

Luming Yang

22 YO | The Ohio State University

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Education

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| Ph.D., The Ohio State University Electrical and Computer Engineering, Advisor Prof. Alper Yilmaz • Main Focus: Interdisciplinary AI, Medical AI, Computer Vision, Bioinformatics | Aug 2024 – present Columbus, OH, USA |
| B.Eng., Southern University of Science and Technology Computer Science and Technology • Main Course: Medical Artificial Intelligence, Deep Learning, Software Engineering, Operating System, Computer Security, Computer Networks, Data Mining, Discrete Mathematics, Algorithm Design and Analysis | Sep 2020 – Jun 2024 Shenzhen, China |
| The Hong Kong Polytechnic University , Program in machine learning | Jan 2024 – May 2024 |

Experience

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| Graduate Research Associate , Photogrammetric Computer Vision Lab, OSU | May 2024 – Present |
| Research Associate , Evolving Machine Intelligence Lab, SUSTech <i>Shenzhen, China</i> • Designed & implemented EvoX: High-performance evolutionary computation framework using JAX's automatic differentiation and GPU/TPU acceleration. Developed distributed co-evolution algorithms on large-scale neuroevolution tasks. 700+ GitHub stars. | Jun 2021 – Jun 2024 |
| AI Research Intern , Smart Dynamics, <i>Shenzhen, China</i> • Training and optimizing real-world physics models using large-scale multimodal vision datasets. Increased threat detection accuracy by 14% (84.3% → 98.1%) while reducing inference latency. | Jun 2023 – Oct 2023 |
| Teaching Associate , SUSTech, <i>Guangdong, China</i> • Participate in teaching Data Structure and Algorithm Analysis and other courses, prepare courseware and exams. Teach medical first aid and organize practical assessments. | Aug 2021 – Jun 2022 |

Publications

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| Tensorized Ant Colony Optimization for GPU Acceleration Luming Yang, Tao Jiang, Ran Cheng*. Proceedings of the GECCO'24 (CORE-A) 10.1145/3638530.3654394 | Oct 2023 |
| Transformer-Based Learning for T-cell Receptor Peptide Binding Luming Yang, Haoxian Liu, Sansoterra Nicholas, Alper Yilmaz*. <i>In review at Briefings in Bioinformatics</i> | Dec 2024 |
| Multivariate Gaussian Representation for Medical Action Evaluation Luming Yang [#] , Haoxian Liu [#] , Siqing Li, Alper Yilmaz*. <i>Preparing for AAAI'26 (ICCV borderline reject)</i> | Feb 2025 |
| Disentangling Global Spread of IA Virus with Bayesian Method Luming Yang [#] , Rongrong Qu [#] , Siqing Li, et al., Shigui Yang*. <i>In review at Nature Communications</i> | Apr 2025 |
| Quantifying the Impact of the COVID-19 Pandemic on the Burden of NTDs Can Chen [#] , Rongrong Qu [#] , Luming Yang [#] et al., Shigui Yang*. <i>Submitted to BMJ Global Health</i> | Jun 2025 |

Ongoing Projects

Proton Therapy Dose Prediction with CT using Vision Transformer July 2025

Use a multi-stage pre-trained transformer architecture for proton dose estimation and combine it with CT scan for localization. Propose critical region segmentation and a unetr architecture suitable for proton.

EEG for Motor Imagery and Stereo EEG for Sleep Stage Classification Feb 2025

Use pre-trained architecture and two-stream neural network for EEG signal processing. Analyze the characteristics of sEEG signals and train transfer networks.

Awards & Honors

- **University Motto Scholarship** (Top 1%) 2023
- **National Scholarship Nomination** (Top 2%) 2023
- **Third Prize Scholarship** (Top 15%, twice) 2021, 2022
- **Outstanding Youth in Guangdong Province** (University nominee) 2023
- **Silver Medal**, International Genetically Engineered Machine Competition (iGEM) 2023
- **First Prize**, China International Collegiate "Internet+" Competition 2023
- **First Prize**, National Olympiad in Informatics in Provinces (2 times) 2018
- **Outstanding Volunteer of SUSTech** 2021, 2023
- **Ethic Award of SUSTech** 2022
- **Excellent Student of SUSTech** 2021

Skills & Certifications

- **Technical:** Python, JAX, PyTorch, TensorFlow, Evolutionary Algorithms, Computer Vision, Distributed Systems
- **Languages:** English (TOEFL 105, Fluent), Mandarin (Native), Cantonese (Fluent)
- **Certifications:** AHA HeartSaver®, Red Cross First Aid, China Red Cross Rescue Mentor, Radio Operator License (Level A), National Volleyball Referee (Level 2)
- **Achievements:** National ARDF Youth Champion (Radio Orienteering), Shenzhen Volleyball Champion