Andrea Leang

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Education

Massachusetts Institute of Technology — Cambridge, MA

Anticipated Candidate for MEng. Electrical Engineering and Computer Science — *Expected Graduation: May 2026*

Candidate for S.B. Electrical Engineering and Computer Science — *Expected Graduation: May 2025*

Minor in Business Analytics. GPA: 4.8/5.0

Relevant Coursework: Nanoelectronics & Computation Systems, Micro/Nanofabrication, Robotic Manipulation, Design & Rapid Prototyping, Large-scale Symbolic Systems, Multiagent Learning, Design and Analysis of Algorithms

Organizations: Gordon-MIT Engineering Leadership Program (GEL), MIT Anime Club, NCAA Women's Fencing

Relevant Experience

Undergraduate Researcher — June 2024 – Aug. 2024

MIT Media Lab's Responsive Environments Group — *Cambridge, MA*

- Networked Electronic Textile Skin for VR/AR: Developed an Arduino and Unity system with length, slope, and object detection features to create a 3D digital twin of a grid of sensors embedded in stretchable fabric
- Created robotics rotation system that derives the digital fabric's real-time position from the physical fabric
- Engineered bi-directional data communication between Unity and Arduino for real-time control of robotic arms

Fencing Star U.S. Distribution — Aug. 2023 – Present

Director — *Remote*

- Managed over 25 fencing clubs and NCAA fencing teams collaborations nationwide
- Led the Grand Opening at USA Fencing Summer Nationals, selling 500+ pairs and reaching $50,000+ in revenue
- Created, designed, and managed www.fencingstar.us/ to facilitate in-person and online sales for over 625 customers

Undergraduate Researcher — June 2023 – June 2024

Towards Microbial-Arduino Study at MIT LEMI — *Cambridge, MA*

- Automated transformation of particle and bacteria videos into statistics, graphs, and animations using MATLAB
- Researched and implemented Machine Learning clustering techniques to characterize bacterial surface charge

Undergraduate Researcher — April 2022 – May 2022

Joint-Stability Study at MIT.nano Immersion Lab — *Cambridge, MA*

- Led experiments collecting EMG, motion tracking, ultrasound, and video data of 20 participants doing various arm exercises to identify occurrences of highest muscle instability.

Extracurriculars

MIT Varsity Fencing Team — Sept. 2021 – Present

Women's Epee Squad Leader (Sept. 2022 - Present) and Fencer — *Cambridge, MA*

- Created and led team practices 10 hrs/wk and competed for MIT against 21 Div-I and Div-III NCAA teams
- US Fencing Coach Association (USFCA): Scholar of Distinction (21-22, 22-23, 23-24)

Mathematics for Computer Science Class — Feb. 2024 – Present

Teaching Assistant — *Cambridge, MA*

- Reinforced proof writing skills of 600+ students through supporting recitation material and hosted office hours

MIT Anime Club — Feb. 2022 – Present

Exec. Web master, Management — *Cambridge, MA*

- Fixed, updated, and managed the club's website https://anime.mit.edu/ and Discord server of 300 members

Publications

"Zeta potential characterization using commercial microfluidic chips" | *Coauthor* — Jan. 2024

"A comparison of point-tracking algorithms in ultrasound videos from the upper limb" | *Ack.* — May 2023

Skills

Coding Languages: Python, MATLAB, C#, R, C++, C, Scheme/LISP, Java, Minispec, Assembly

Technical Skills: Nanofabrication, Photolithography, DRIE, Arduino, Robotics, System Diagrams, EDP Simulation

Languages: Mandarin (Fluent)