Phoebe Xu

(617) 877-6039| pxu79@mit.edu | linkedin.com/in/phoebexu-mit

OBJECTIVE

Inventive MIT EECS student with 3+ years of hands-on experience in biomedical imaging, scalable backend systems, and cross-platform apps. Passionate about engineering solutions that bridge human health, intelligent systems, and cloud infrastructure. Seeking opportunities to drive innovation at the intersection of healthcare and technology through curiosity, precision, and a builder's mindset.

EDUCATION

Massachusetts Institute of Technology – Cambridge, MA
B.S. in Electrical Engineering and Computer Science — *Expected May 2027*
Relevant Coursework:
Dynamical System Modeling and Control Design · Introduction to Algorithms · Electrical Circuits: Modeling and Design of Physical Systems · Introduction to Probability & Statistics · Mobile Autonomous Systems Lab · Physics III · Multivariable Calculus · Linear Algebra · Differential Equations

EXPERIENCE

Recovering Bro Startup, Team Leader January 2024 - Present

- Led development of a cross-platform wellness app using Java and Flutter, with an event-driven backend for real-time health check-ins and user notifications.
- Integrated machine learning to generate personalized Slack message summaries based on individual communication and behavior patterns.

T1 MRI Analysis for Quantitative Clinical Diagnostic Assessments, Research student, *Boston, MA*
July 2024 - Present

- Designed and built a custom NMR sensor system, integrating a Halbach magnet array with an RF transceiver coil for localized field generation and signal acquisition.
- Conducted analysis of T1 relaxation times in kidney MRI datasets to support early-stage biomarker identification and improve diagnostic modeling accuracy.

Athinoula A. Martinos Center for Biomedical Imaging Internship, Research Student, *Boston, MA*
June - September 2021, 2022

- Designed stabilizing head scaffolds for MRI helmets to mitigate motion artifacts during scan sessions.
- Integrated TMS, shim, and RF receive coils to enhance scan quality and reduce signal loss.
- Conducted Magnetic Particle Imaging (MPI) sensitivity tests using spectroscopy and built signal filters for hardware optimization.

The Yale Summer Program in Astrophysics, *New Haven, CT* July - August 2022

- Developed genetic algorithm to model the orbital path of comet C/2022 E3 (ZTF).
- Co-wrote the article "Orbit Determination of C/2022 E3 (ZTF)"; published data to Harvard Minor Planet Center.

Arctic Innovation Competition, *Fairbanks, AK* December 2019, 2021

- Designed non-slip shoes; team won 3rd place.
- Designed machine to remove snow from rooftops; team won 1st place.

TECHNICAL SKILLS

Languages: Python, Java, MATLAB, Dart (Flutter)
Frameworks/Tools: ROS2, Git, AWS, Slack API, GitHub
Fluent: English, Chinese

LEADERSHIP & SERVICE

Precision Rifle, Lathrop High School, Massachusetts Institute of Technology. September 2022 – Present

- 2nd place, Alaska State Championships (2022); 3rd, MAC Regionals Smallbore (2024)

World Youth Classic Ice Art Championships 2020 and 2021, Team Captain, *Fairbanks, AK*

- Led team to 6th place internationally with a sculpture of *Togo* the sled dog.

Hunter Elementary School, *Fairbanks, AK* September 2021 - May 2023

- Designed and led afterschool workshops in math, art, and literacy.

Fairbanks Pioneer Home, Senior Assisted Living Center, *Fairbanks, AK* September 2019 - May 2023

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- Delivered handmade cards, masks, and care packages during the COVID-19 pandemic.