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EDUCATION

Massachusetts Institute of Technology **May 2025**

Candidate for Bachelor of Science in Computer Science and Engineering *Cambridge, MA*

- Relevant Classes: *Algorithms and Data Structures, Graduate-level Machine Learning, TinyML & Efficient Deep Learning Computing, Linear Algebra, Modelling with Machine Learning, Probability & Random Variables*

EXPERIENCE

Broad Institute of Harvard & MIT - *Cimini Lab* **May 2023 –**

Eric and Wendy Schmidt Center Funded Research and Innovation Scholar *Cambridge, MA*

- Researching and implementing optimization methods to bring inference engines for biological image segmentation models to the browser with ONNX; Customising and fine-tuning the U-Net & SAM model and their variants.

MIT Driverless - *Perception, Localization & Mapping* **September 2023 –**

Engineer *Cambridge, MA*

- Implementing, training, and deploying computer vision pipelines for object detection & segmentation models, sensor fusion, and simultaneous localization and mapping(SLAM) for an autonomous IndyCar in preparation for a race at CES next January.

Meta - *Pytorch Distributed Team* **May – August 2023**

Software Engineering Intern *Menlo Park, CA*

- Enabled training using the pipeline parallel distributed paradigm for more robust training in a multi-GPU environment by implementing functionality to save model checkpoints. Cleaned up the project repository codebase.

MIT Mobile Technology Lab - *Python, Django* **February – May 2023**

Undergraduate Researcher *Cambridge, MA*

- Designed, built, and deployed a RESTful API server for a cross-platform game that does mental health assessments across 5 different modules: working memory, cognition, cognitive bias, impairment, and impulsivity.

Meta - *Javascript, React, Node* **June – August 2022**

Software Engineering Intern *Menlo Park, CA*

- Designed, built, and showcased a full-stack web album cover design tool as part of my personal project.

MIT CSAIL - *Deep learning, Python* **February 2022**

Undergraduate researcher *Cambridge, MA*

- Shaped the research direction by developing and evaluating native and modified GAN methods to generate synthetic data using ECG, and EHR data from public remote sensing databases.
- Implemented the following models from papers on remote health care data imputation: MICE, Dynamic Bayesian Networks & GANs with RNNs.

MIT CSAIL, Bank Negara Malaysia - *Python* **March – May 2022**

Research Assistant *Cambridge, MA*

- Built an interface around the document processing automation tools for the Central Bank of Malaysia.
- Translated desired client features to technical specifications after meeting with the team.

LEADERSHIP

MIT National Society of Black Engineers **October 2021 –**

Academic Excellence Chair *Cambridge, MA*

- Piloted and organised a faculty lunch series with MIT professors, graduate students' panel, and problem-set parties.
- Coordinated the society's academic administrative duties such as GPA verification, setting up semesterly problem set partners, and matching upperclassmen mentors with mentees.

PROJECTS

ArchiGen **March – May 2023**

- Designed and built a stable-diffusion based generative AI text-to-floor-plans platform as part of an on-campus AI projects incubator.
- Preprocessed the RPLAN dataset(80k samples) and fine-tuned a general stable-diffusion model on floor plans.