

AMIR BIN SYAHMI

✉ amirsyahmibhari@outlook.com [in linkedin.com/in/amir-bin-syahmi](https://www.linkedin.com/in/amir-bin-syahmi) github.com/Am1rSy amirsyahmi.com

EDUCATION

Imperial College London

October 2021 - June 2025

Master of Engineering (M.Eng.) Biomedical Engineering (Computational Stream)

- **Current Academic Performance (Third Year):** First Class.
- **Key Subjects:** Biomedical Imaging, Reinforcement Learning, Optimisation, Image Processing, Software Engineering, Statistical Signal Processing.

Kolej MARA Seremban

January 2020 - May 2021

Cambridge International A-Levels

- Achieved 3A* in Chemistry, Mathematics and Physics.

WORK EXPERIENCES

Leveraging AI and Crowdsourcing for Enhanced Cell Tracking

June 2024 - Sept 2024

Software Engineer & Undergraduate Researcher

Imperial-X, Imperial College London

- Individual extension project to "Coupling AI and Citizen Science for Medical Image Segmentation Dataset", supported by Imperial College's Undergraduate Research Opportunity Program (UROP).
- Developed a video transformer to enable analysis of cell movement and merging via automated video tracking.
- Deployed a user-friendly prototype via the Gradio platform for real-world testing and feedback, contributing to research at Imperial-X.
- Prototype and platform were able to optimise researchers' workflow in cell tracking tasks by 80%.

Coupling AI and Citizen Science for Medical Image Segmentation Dataset

October 2023 - June 2024

Lead Software Engineer & Researcher

Imperial-X, Imperial College London

- Led a team developing an online crowdsourcing platform to accelerate the creation of labelled medical image datasets.
- Integrated foundational segmentation and generative AI models into the platform, increasing data labelling efficiency by 60% for targeted medical image modalities.
- Utilised High-Performance Computing (HPC) clusters to train AI models, improving training speed and computational efficiency.
- Submitted the project for peer-reviewed publication, currently awaiting a decision.

Semantic MRI-based Knee Segmentation using UNET

July 2023 - September 2023

Undergraduate Researcher

MATTR Group, Imperial College London

- Selected to assist the research group by developing an auto-segmentation application, sponsored by Imperial College's UROP program.
- Implemented a low-computing-cost UNET neural network for knee MRI articular cartilage segmentation using PyTorch and SciKit, achieving an average DICE score of 95%.
- Gained hands-on experience with Siemens IDEA program for MRI sequence development, mastering fundamental MRI physics principles and sequence programming.

PROJECTS

Cyathlon Arm & Leg Competition | Arduino, Signal Processing, Machine Learning

October 2022 - Present

- Vice-Captain of the Electronics and Computational Team of Imperial College London Prosthetic Society in developing a prosthetic arm and leg for the Cyathlon Competition.
- Driving the development of prosthetics through collaborative team efforts, demonstrating strong leadership, project management, and interdisciplinary collaboration.
- Collaborated on the fabrication of the initial prototypes, applying signal processing and machine learning expertise to enhance performance.

Koffing: Asthma Companion Web Application | Python, Flask, PostgreSQL, Javascript

November 2023 - January 2024

- Led a team of 5 to develop an asthma companion web application using JavaScript, Flask, and HTML.
- Designed and implemented the PostgreSQL database, unit-testing key features before deployment, and integrated essential RESTful APIs to improve website functionality and user experience.
- Completed the project in under 2 months by leveraging the Agile development cycle, delivering a high-quality, user-friendly web application.

SKILLS & LANGUAGES

Programming: Python, Pytorch, C++, JavaScript, Java, SQL, Linux, Arduino, Matlab, HTML, PostgreSQL, Flask, Git.

Domain: Signal Processing, Machine Learning, Deep Learning, Bioengineering/Healthcare, Image Processing, Computer Vision, High-Performance Computing (HPC).

Languages: Malay (Native), English (Professional), Japanese (Intermediate).

References are available upon request.