

JASON KEN ADHINARTA

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RESEARCH EXPERIENCE

Boston College Computer Vision Lab

Chestnut Hill, MA

Research Assistant (advised by Prof. Donglai Wei)

Sep 2021 – Present

- Designed methods to extract anatomical structures from vessels and dendrites imaged using electron microscopy
- Maintained sites for biomedical ML benchmarks to enable reproducible evaluation of techniques for the community
- Orchestrated data pipelines on the Boston College Linux cluster on terabyte-scale datasets
- Onboarded research interns onto the lab's computational infrastructure
- Collaborated with neuroscience researchers at the Harvard Visual Computing Group, the Harvard Lichtman Lab, the NYU Neuroinformatics lab, and Rafael Yuste's lab at Columbia University
- Published a paper in Nature Communications 2024, with manuscripts under review at IEEE J-BHI and TMI, top medical imaging venues

EPFL CVLab

Lausanne, Switzerland

Research Intern (advised by Dr. Jiancheng Yang and Prof. Pascal Fua)

May 2023 – Aug 2023

- Developed methods to generate anatomically accurate heart structures from MRI data using neural fields
- Implemented methods to extract ribcages from CT scans, creating a large-scale rib segmentation benchmark
- Published papers in TMI 2023 and MICCAI 2024; top medical imaging venues

Emmerich Research Center

Jakarta, Indonesia

Research Intern (advised by Dr. Eden Steven)

Aug 2018 – Aug 2021

- Worked closely with food scientists, chemists, physicists, and electrical engineers on interdisciplinary problems
- Rigged heat and optical control systems to study phosphorescent phenomena of glow-in-the-dark crystals under cryogenic temperatures; published a first-author paper in JNOPM 2019, awarded Best Poster Presentation at ISMOA 2019
- Developed contamination detection methods to streamline synthetic leather production systems; Indonesian patent pending on a robotic method to treat infections in fungal cultures (submitted in 2020)
- Computationally modeled the Ohmic resistance of hexagonal lattices analogous to twisted bilayer graphene
- Trained larvae tracking systems as part of a greater project to optimize conversion of organic waste into protein
- Crafted a computer vision system to automate palm oil fruit quality control for industry partners
- Co-designed an Arduino-based electronics programming curriculum for Sekolah Pelangi Kasih, a local high school

TEACHING ASSISTANTSHIP

CSCI 3397: Biomedical Image Analysis (Prof. Donglai Wei)

Spring 2024

MATH 4480: Math and Machine Learning (Prof. Elisenda Grigsby)

Spring 2023

ACTIVITIES

Boston College Machine Intelligence Group

Chestnut Hill, MA

President

Sep 2022 – Present

- Organized weekly seminars for an undergraduate audience, inviting speakers from industry and academia
- Equipped members with concrete engineering skills, promoting collaboration with CS/math research labs on campus
- Developed workshops on landmark ML methods in collaboration with Boston College Computer Science Society

Boston College Experimental Math and Machine Learning Lab

Chestnut Hill, MA

Member

March 2023 – Present

- Presented on interesting theoretical and practical developments in deep learning to a mathematically inclined audience
- Engaged with faculty and graduate students to explore the intersection of mathematics and machine learning
- Received funding from a Teaching-Advising-Mentoring grant Summer 2024 to develop tutorial materials on CLI tools

SPH Lippo Village Applied Science Academy

Tangerang, Indonesia

Mentor

Aug 2023 – Present

- Remotely mentored three high school students with varying experience levels on the Python deep learning ecosystem, with an emphasis on hands-on projects such as audio-processing for mosquito species identification, keyboard keystroke sniffing attacks, and remote-controlled-car navigation using novel view synthesis

Boston College Competitive Programming Team

Chestnut Hill, MA

Competitor

Sep 2022 – Dec 2023

- Represented Boston College at the 2022 and 2023 ICPC Northeast North America Regional Contests