

JASON KEN ADHINARTA

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EDUCATION

Boston College

B.S. in Computer Science and Mathematics; **GPA: 3.97/4.00**

Activities: Machine Intelligence Group, Boston College Competitive Programming Team

Chestnut Hill, MA

Aug 2021 – May 2025 [expected]

Sekolah Pelita Harapan Lippo Village

International Baccalaureate Bilingual Diploma; **GPA: 43/45**

Tangerang, Indonesia

Aug 2018 – May 2021

RESEARCH EXPERIENCE

EPFL CVLab

Project Student (advised by Dr. Jiancheng Yang and Prof. Pascal Fua)

Lausanne, Switzerland

May 2023 – Present

- Developed point-cloud/volume-based baseline methods for rib segmentation and centerline extraction
- Implemented methods for heart reconstruction on multimodal data

Boston College Computer Vision Lab

Undergraduate Research Assistant (advised by Prof. Donglai Wei)

Chestnut Hill, MA

Sep 2021 – Present

- Designed methods to tackle multimodal problems in connectomics—blood vessel tracking, dendritic spine segmentation, and vesicle detection—by utilizing deep learning techniques (PointNet++, U-Net3D, Cellpose)
- Maintained the SNEMI3D, RNR-EXM, and AxonEM challenge benchmarks on the Grand Challenge platform
- Created a Dask-powered framework to orchestrate data processing pipelines on large-scale datasets; ported 3D algorithms (3D connected components, euclidean distance transform, and TEASAR skeletonization) from the Seung Lab to be chunking-compatible
- Onboarded research interns onto the Boston College Linux Cluster and PyTorch Connectomics ecosystems

Emmerich Research Center

Research Intern (advised by Dr. Eden Steven)

Jakarta, Indonesia

Aug 2018 – Aug 2021

- Researched the lifecycle of Black Soldier Flies by employing segmentation (YOLACT, Mask-RCNN) and tracking methods (Differentiable Particle Filters, Tracking-by-Animation)
- Used XGBoost-powered models to standardize palm oil fruit grading for industry partners; deployed GCP pipelines to automate annotation/training cycles
- Developed contamination detection methods to streamline synthetic leather production systems
- Rigged heat and optical control systems to study phosphorescent phenomena under cryogenic temperatures
- Co-designed an electronics programming curriculum targeted at highschool students; instructed at various workshops

PUBLICATIONS

Xiaomeng Han, Xiaotang Lu, Peter H. Li, Shuohong Wang, Richard Schalek, Yaron Meirovitch, Zudi Lin, **Jason K. Adhinarta**, Daniel Berger, Yuelong Wu, Tao Fang, Elif S. Meral, Shadnan Asraf, Hidde Ploegh, Hanspeter Pfister, Donglai Wei, Viren Jain, James S. Trimmer, Jeff W. Lichtman. **Multiplexed Volumetric CLEM enabled by antibody derivatives provides new insights into the cytology of the mouse cerebellar cortex.** [bioRxiv:10.1101/2023.05.20.540091v2](https://doi.org/10.1101/2023.05.20.540091v2) [under review]

Shixuan Gu, **Jason K. Adhinarta**, Mikhail Bessmeltsev, Jiancheng Yang, Jessica Zhang, Daniel Berger, Jeff W. Lichtman, Hanspeter Pfister, Donglai Wei. **FreSeg: Frenet-Frame-based Part Segmentation for 3D Curvilinear Structures.** [manuscript in preparation]

Liang Jin, Shixuan Gu, Donglai Wei, **Jason K. Adhinarta**, Kaiming Kuang, Yongjie J. Zhang, Hanspeter Pfister, Bingbing Ni, Jiancheng Yang, Ming Li. **RibSeg v2: A Large-scale Benchmark for Rib Labeling and Anatomical Centerline Extraction.** [arXiv:2210.09309](https://arxiv.org/abs/2210.09309) [under review]

Jason K. Adhinarta, Eric Jobiliong, Muhandis Shiddiq, Henri P. Uranus and Eden Steven. **Light storage and thermal-assisted switching of $\text{SrAl}_2\text{O}_4:\text{Eu}^{2+}$, Dy^{3+} .** Journal of Nonlinear Optical Physics & Materials, 2019. [doi:10.1142/S0218863519500425](https://doi.org/10.1142/S0218863519500425)

PATENTS

Edmund F. Anderson, Eden Steven, Ray A. O. Sinurat, **Jason K. Adhinarta**, Calvin, Alvius Tinambunan, Josavan Ezekhiel, Andrew D. Widjaja. **A Robotic Method of Monitoring, Hydrating, Training, and Treating Bacterial or Fungal Infections of New-growth Fungal Cultures to Produce Densified Sheet-like Lateral Networks of Fungal Materials.** [PDKI:P00202009416](https://patent.gov/patents/PDKI:P00202009416) [pending]

TEACHING ASSISTANTSHIP

MT4480: Math and Machine Learning (Prof. Elisenda Grigsby)

Boston College, Spring 2023

AWARDS

Sophomore Scholar Award

Boston College, 2023

Granted to the top 5% of the sophomore class

Gabelli Presidential Scholarship

Boston College, 2021

Competitive four-year full-tuition scholarship awarded to ~15 students annually

Best Poster Presentation

ISMOA 2019

Awarded at the 12th International Symposium on Modern Optics and its Applications

SELECTED PROJECTS

Moiré

[Writeup](#) [GitHub](#)

Modelled the angle dependence of Ohmic resistance in Moiré patterns induced by hexagonal lattices

Reversing Nearness

[Writeup](#) [GitHub](#)

Proposed a gradient descent-based solution for Al Zimmermann's combinatorics optimization contest

SimpleMMO PVP Tool

[Website](#) [GitHub](#)

Developed a web-based tool to allow SimpleMMO players to aggregate results of PVP API endpoint scraping

SKILLS

Proficient: PyTorch, OpenCV, Dask, SLURM, Linux CLI, Arduino

Intermediate: Javascript, Docker, Flask, PostgreSQL, LabView, Igor Pro, \LaTeX /TikZ

Basic: C++, Coq, Haskell, AWS/GCP

COURSEWORK

Computer Science: Logic and Computation, Randomness and Computation, Computer Organization, Computer Systems

Mathematics: Probability Theory, Differential Equations, Multivariable Calculus, Linear Algebra

Physics: Vibrations and Waves, Intro to Modern Physics