

Brian Park

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EDUCATION

University of California, Los Angeles (UCLA) Los Angeles, CA
B.S. in Computer Science and Engineering June 2024
Honors: 2021, 2022 Dean's Honor List GPA: 3.7
Relevant Coursework: Data Structures and Algorithms | Object Oriented Programming | Machine Learning | Deep Learning | Artificial Intelligence | Computer Architecture | Operating Systems | Logical Circuit Design | Electrical Circuits

EXPERIENCE

Structures-Computer Interaction at UCLA Los Angeles, CA
Student Researcher; Advisor: Prof. M. Khalid Jawed Sept 2022–Present

- Leverage **NVIDIA Instant-NGP, Robot Operating System (ROS), PyTorch** to devise photorealistic virtual environments from sets of 150+ collected images for the purpose of simulating real agricultural fields.
- Build **autonomous robotics software** and **Computer Vision algorithms** for leading research development of self-driving precision agricultural robots in collaboration with the U.S. Department of Agriculture.
- Formulated **mBEST Perception Algorithm** to perform realtime detection of Deformable Linear Objects; Obtained ground truth labels of the mBEST and FASTDLO dataset using **OpenCV, NumPy**

Miravel Los Angeles, CA
Software Engineer Intern Jan 2021–Oct 2021

- Created subscription service with **HTML, CSS, JavaScript, REST APIs** for customers to edit account information and create transactions.
- Implemented an account management system that over **360** users ordered, viewed, and edited products to purchase seeds for their autonomous indoor garden.

iD Tech Los Angeles, CA
Academy Instructor Summer 2022

- Led iD Tech's "Machine Learning: Coding Deep Neural Networks" course to 30 high school students.
- Guided students in training **Convolutional Neural Networks** on the CIFAR-10 dataset using **Tensorflow** and **Recurrent Neural Networks** for cooking recipe generation using **Python, Tensorflow, pandas, BeautifulSoup**.

Association for Computing Machinery, Artificial Intelligence at UCLA Los Angeles, CA
Outreach Officer Oct 2020–Present

- Developed and instructed a UCLA-certified machine learning curriculum weekly to cohorts of 20 students at North Hollywood High School and Girls Academic Leadership Academy.
- Host of "You Belong in AI," a podcast with over 1300 listeners that explores diversity and inclusion within AI, featuring leaders of artificial intelligence organizations within Google, NVIDIA, DeepMind, MITRE.

PUBLICATIONS

- Choi, A., Tong, D., **Park, B.**, Terzopoulos, D., Joo, J., Jawed, M. "mBEST: Realtime Deformable Linear Object Detection Through Minimal Bending Energy Skeleton Pixel Traversals", *IEEE Robotics and Automation Letters*, 2023.

PROJECTS

Cassava Leaf Disease Classification - PyTorch Fall 2021

- Fine-tuned **ResNet-18 neural network** on Kaggle Cassava Leaf Disease dataset to detect different diseases on cassava leaves, a staple food source based on Uganda's National Crops Resources Research Institute.
- Optimized baseline model accuracy by **20%** through data augmentation and transfer learning in **PyTorch**.

Fishbowl – OpenCV, ReactJS/Firebase (LA Hacks 2022) Spring 2022

- Computer Vision web app that enhances remote learning environments by tracking a lecturer's movements and allowing live chats with students. Built with **YOLOv4 object-detection algorithm, OpenCV, Firebase** database.

SKILLS

Programming Languages: Python, C/C++, C#, HTML, CSS, Javascript, Bash

Technologies: PyTorch, Tensorflow, ROS, Keras, scikit-learn, OpenCV, Unity, React.js, Firebase, Git, Figma