Brian Park

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EDUCATION

Carnegie Mellon University Pittsburgh, PA
Master of Science in Computer Vision Expected: Dec 2025
Courses: Computer Vision, Robot Learning, Visual Learning and Recognition

University of California, Los Angeles Los Angeles, CA
Bachelor of Science in Computer Science and Engineering; GPA: 3.69; 2021, 2022 Dean's Honor List May 2024
Courses: Deep Learning, Machine Learning, Computer Graphics, Computer Architecture, Operating Systems

EXPERIENCE

NVIDIA Santa Clara, CA
Perception Software Engineer Intern, Autonomous Vehicles *May 2024 – Aug 2024*

- Integrated a Bird's Eye View (BEV) semantic segmentation model for parking edge detection into ParkNet Deep Neural Network (DNN), achieving a 0.98 DICE score using PyTorch, OpenCV.
- Utilized Meta AI's Segment Anything Model (SAM) to evaluate the geometric precision of parking space ground truth labels, driving optimized localization and data mining for parking space detection.

Perception Software Engineer Intern, Autonomous Vehicles *Jun 2023 – Sept 2023*

- Performed data augmentation on training data of parking spaces, generating 1.7 million scenes of Augmented Reality wheel stoppers, utilizing PyTorch, SQLite. Awarded 2nd Place at NVIDIA Global Intern Project Showcase.
- Implemented 13 Key Performance Indicator (KPI) metrics, including Intersection Over Union (IOU), Positional Error, and Hausdorff Distance, to evaluate the performance of ParkNet DNN, using NumPy, Pandas.

Structures-Computer Interaction at UCLA Los Angeles, CA
Undergraduate Researcher; Advisors: Prof. Jungseock Joo and Prof. M. Khalid Jawed *Sept 2022 – Mar 2024*

- Devised a sampling pipeline utilizing NVIDIA Instant-NGP and Unity C# Engine to generate neural radiance field objects (NeRFs) for 3D Reconstructions of agricultural fields, achieving a 98.3% reduction in sampling time.
- Built 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 groundtruth labels of the mBEST and FASTDLO dataset using OpenCV, NumPy.

Association for Computing Machinery, Artificial Intelligence at UCLA Los Angeles, CA
Outreach Officer *Oct 2020 – Sept 2023*

- 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.
- Hosted "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

- 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 and Firebase database. (2022)

SKILLS

- Languages: Python, C++, C, C#, HTML, CSS, JavaScript, Haskell, Bash, SQL.
- Technologies: PyTorch, Tensorflow, OpenCV, NumPy, Pandas, scikit-learn, Unity, ReactJS, Firebase, SQLite, Git.