Jia Jiunn Ang

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Education

Cornell University Ithaca, NY Aug 2018 – May 2022

- Bachelor of Arts in Statistical Science and Computer Science (double major)
- CGPA: 3.85 (Deans List, all semesters)
- Related Coursework:
  Algorithms Analysis, Functional Programming, Computer Systems Organization, Computer Game Architecture, Object-Oriented Programming & Data Structures, UNIX Tools & Scripting, Backend Development, iOS Development.

Experience

Software Engineering Intern Argo AI May 2020 - Aug 2020

- Worked on an end-to-end distributed training and validation framework for deep learning models on GCP.
- Researched and developed a stixel-based general obstacle detector from scratch, achieving comparable performance to SOTA stixel-based perception systems.
- Integrating model into Argo AI's autonomous vehicle perception pipeline, to potentially serve as a fail-safe for current onboard detection methods.

Software Engineering Intern Garuda Robotics May 2019 - Aug 2019

- Developed a MobileNet-based object recognition module via transfer learning, as part of an obstacle avoidance system for medium-speed delivery UAVs (~5 m/s).
- Experimented using SfM and vision-based odometry for stereo camera 3D point cloud mapping.
- Built blob detection and optical flow-based obstacle detection algorithms, and achieved an accurate detection range of up to 20 meters in ~0.7 seconds.

Student Software Engineer Cornell Electric Vehicles Aug 2018 - Present

- Led development of an onboard localization system fusing data from an IMU and GPS.
- Coordinated a team of five to develop an end-to-end training, validation, and deployment pipeline for PyTorch object detection models.
- Implemented an RRT*-based path planning algorithm to navigate obstacle maps in real time.

Teaching Assistant Cornell College of Engineering Jan 2019 - Present

- Introduction to Analysis of Algorithms, *Fall 2020*; Data Structures and Functional Programming, *Spring 2020*; Discrete Structures, *Fall 2019*; Introduction to Machine Learning and Data Science, *Spring 2019 - Spring 2020*
- Led weekly lab sections for 30 students, covering topics such as discrete math, probability, and number theory.
- Graded student assignments and held weekly office hours for a class size of more than 300 students.

Projects

Night Bite *(Video Game)* Feb 2020 - May 2020

- Collaborated remotely with a team of 8 programmers and designers to develop a single-player desktop action game, available for download here.
- Built a custom game engine on top of libGDX in Java, with physics simulations handled by Box2D.
- Implemented player input controllers as well as logic for enemy AI.

Skills

Programming Languages: Python (proficient), Java, OCaml, C/C++, R, Swift, JavaScript.
Technologies: TensorFlow, NumPy, OpenCV, git, docker, pandas, scikit-learn, LaTeX, Flask, libGDX, Box2D.
Languages: Fluent in English, Mandarin, and Malay; proficient in Cantonese.