Immanuel A. Chai

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EDUCATION

University of California, San Diego || La Jolla, CA October 2020 – March 2025

B.S. Cognitive Science Spec. Machine Learning/Neural Computation, Minor: Computer Science

Relevant Coursework: Advanced Data Structures and Algorithms, Object-Oriented Programming, Web Development, Design and Analysis of Algorithms, Supervised Machine Learning Algorithms, Neural Networks and Deep Learning, Advanced Machine Learning Methods, Artificial Intelligence Algorithms

SKILLS

- **Programming Languages:** Python, JavaScript, HTML/CSS, TypeScript, Java, C/C++
- **Developer Tools:** Git, VS Code, Visual Studio, PyCharm, Supabase
- **Frameworks:** React Native, PyTorch, TensorFlow

WORK EXPERIENCE

Epitone: *Software Engineer Intern* 10/2022 - 9/2023

- Collaborated with a cross-functional team of 2-3 engineers and researchers to design and deploy machine learning solutions for diverse clients.
- Gained proficiency in YOLO object detection within a 1-week period, demonstrating rapid learning and adaptability.
- Contributed to a primary project involving training YOLO models on datasets with 1000+ images and integrating models like MonoDepth2 for depth estimation in video projects.
- Utilized object detection data and pixel depth to develop a screen-to-world view in Unity, scripting bounding box data and object depth to enhance real-world interactions.

UniRides: *Full Stack Developer | React Native, Supabase* 11/2024 - Current

- Developed and optimized user-facing screens and navigation flows using React Native and Expo, ensuring a seamless user experience for student ride-sharing services
- Collaborated with a team of 4 developers to design and implement scalable, reusable components and improve codebase efficiency.
- Worked in a cross-functional team of 12, coordinating with designers and backend developers to align on project goals and timelines.

PROJECTS

CampusRide | *TypeScript, React, HTML, CSS*

- Developing a full-stack web application to organize group rides and events, allowing users to create, join, and manage ride-sharing groups and events using a dynamic event creation and participation system.
- Designed responses user interfaces with React, enhancing the user experience by ensuring seamless navigation, filtering, and interaction with even data across devices.

Real-Time Object Detection, Tracking, and Depth Estimation for Autonomous Driving | *Python, YOLOv7, DeepSort, Monodepth2, Google Colab*

- Integrated YOLOv7 with DeepSORT to build a real-time object detection and tracking system for videos, leveraging Google Colab for GPU acceleration.
- Utilized OpenCV to process video frames and generate output videos with tracked objects and corresponding depth maps, optimizing the system for autonomous driving applications.