Evan Tan

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EDUCATION

Self-Directed Learning December 2021 - Present

- Solidity class with OriginsNFT
- Cryptozombies.io
- OpenZeppelin's Ethernaut

Monash University Melbourne, Australia

Bachelor of Robotics and Mechatronics Engineering (Upper Second-Class Honors) July 2017 - December 2021

- Specialization in Artificial Intelligence
- **Key Achievements:** 2019/2020 - Engineering Leadership Program, 2018 - 1st place Australasian FSAE Business Presentation
- **Relevant Coursework:** Machine Learning, Deep Learning, Computer Vision, Robotics, Probability & Discrete Mathematics

EXPERIENCE

AIDrivers Singapore

Autonomy Engineer March 2021 - May 2021

- Co-led the company's first computer vision safety product and oversaw a team for the machine learning pipeline
- Achieved model accuracy over 80% using instance segmentation and computer vision in Python

AIDrivers Singapore

Autonomy Engineer Intern December 2020 - March 2021

- Successfully automated configuration of development environment using Ansible and Bash scripts
- Improved reliability via containerization of production environment using Docker
- Performed calibration and testing for autonomous sensor suite

SKILLS

Languages: Python, Solidity, JavaScript, HTML, CSS, C/C++, MATLAB,
Software: Foundry, Hardhat, dapptools, Docker, Ansible, Git, Bash, Unix/Linux, ROS, Gazebo, Raspberry Pi
Libraries: ethers.js, React, PyTorch, NumPy, OpenCV, matplotlib, Jupyter, Shapely

WEB3 PROJECTS

WordDAO

- Implemented a smart contract that interacts with a token contract to allow token holders to gain access to a DAO for on-chain voting and proposals.

Random Words NFT

- Programmed an NFT drop that randomly generates token traits, stored fully on-chain, and deployed contract to Rinkeby testnet.
- Designed UI using React and ethers.js to allow users to interact with smart contract.
- Tested and deployed contract using Foundry.

ML/AI PROJECTS

Deep Reinforcement Learning for Intelligent Traffic Management September 2021 - October 2021

- Achieved 47% lower waiting time and 10% increased average speed by crafting a novel reward function with expert information for traffic intersections in SUMO-RL
- Managed a team to collaboratively share models and training data using TensorBoard, and enforced version control using Git

Neural Networks and Deep Learning July 2021 - November 2021

- Designed custom convolutional neural networks for image classification problems in PyTorch, using additional image transformations to diversify dataset
- Studied occlusion sensitivity on model predictions and visualized the output of convolutional layers

Teleoperated Pose Estimation Robot July 2020 - November 2020

- Achieved 100% pose estimation accuracy of detected objects with an average of 0.29m discrepancy with max range of 10m, by combining non-linear regression, bounding box size and intrinsic camera properties
- Led a team for data annotation and labelling for custom objects and trained model on cloud computing resources
- Created scripts to gather annotation datasets for the machine learning pipeline using for ROS and Gazebo simulator in Python
- Optimized program runtime by 74% through code profiling and analyzing individual components