

Aaron Low Weng Soon

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TECHNICAL SKILLS

Programming Languages: Python • C++ • C#
Deep Learning Frameworks: PyTorch • TensorFlow • Keras
Data Science Tools: Pandas • SQL
Cloud Development: Serverless • AWS Services • Terraform
Web Development: HTML • CSS • JavaScript
Build Tools: CMake • Bazel
Operating Systems: Windows • Linux
Other Tools: Git • Jenkins • ROS • Docker • Bash • Unity

WORK EXPERIENCE

Motional

2020 - 2024

Singapore

Senior Research Engineer (Sensor Calibration) • 2023 - 2024

Research Engineer (Sensor Calibration) • 2020 - 2023

- Developed solutions for sensor (cameras, LIDARs, radars, IMU) calibration and validation of autonomous vehicles.
- Researched deep learning solutions for sensor calibration as well as implementing the infrastructure for training and evaluation.
 - UniCal: a Single-Branch Transformer-Based Model for Camera-to-LiDAR Calibration and Validation is a novel architecture for carrying out camera-to-LiDAR calibration and validation leveraging self-attention mechanisms using a Transformer-based network.
- Built and maintained cloud-based systems for continuous validation of vehicle sensor data.
 - Our automated system ran daily on a fleet of hundreds of vehicles allowing data-driven calibrations.
- Automated dataset generation and curation for algorithm research.
- Worked on vehicle hardware to deploy online sensor calibration algorithms.

Hyundai-Aptiv Autonomous Driving Joint Venture

2020

Singapore

Autonomous Vehicle Intern (Sensor Calibration)

- Researched deep learning solutions for camera-to-LiDAR calibration of autonomous vehicles.
- Deployed a RegNet based model into production with TensorRT.

Materialise

2016

Kuala Lumpur, Malaysia

Software Engineer Intern

- Designed and developed a Microsoft Paint inspired application.

Accenture

2015

Kuala Lumpur, Malaysia

Solution Architect Intern

- Development of front end retail system dealing mainly with system analysis and testing.
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EDUCATION

Imperial College London

2018 - 2019

PhD in Machine Learning and Computer Vision (discontinued)

- Supervisors: Kim Tae-Kyun and Loy Chen Change
- Research area: 3D Pose Estimation

Imperial College London

2014 - 2018

Electrical and Electronic Engineering MEng

- First Class Honours

- Dean's List (top 10% of class) Year 2
- Thesis: Depth to Colour Translation for 3D Hand Pose Estimation From Monocular RGB With Generative Adversarial Networks
- Selected modules: Linear Algebra • Probability and Stochastic Processes • Machine Learning • Computer Vision • Algorithms and Complexity • Parallel Computing • Optimisation

HELP Academy

2013 - 2014

Edexcel A-Levels

- 4 A* Chemistry • Physics • Mathematics • Further Mathematics
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TEACHING

HELP University

2019 - 2020

Lecturer, Faculty of Computing and Digital Technology

- Lectured introductory programming.
- Presented deep learning tutorials to both staff and students.

Imperial College London

2016

Undergraduate Teaching Assistant, Introduction to Computer Architecture

Taught ARM assembly during programming tutorials.

Imperial College London Game Development Society

2015 - 2018

Co-founder and Secretary

Provided tutorials on game development using C# and Unity.

PROJECTS

Distance to Space 1000

2024

Unity/C# Developer

- Entry to the SpeedJam 5 2024 game jam. A 2D card-based puzzle game written in Unity with C#.

Without Abandonware

2021

Unity/C# Developer

- Entry to the Game Off 2021 game jam. A 2D platformer written in Unity with C#.

Autonomous Snack Delivery Android (ASDA)

2017

Development of Robot Navigation

- Autonomous robot that is capable of manoeuvring a building and taking an elevator to obtain and deliver snacks.

Emocoaster

2017

C# Developer

- Runner-Up ("Best Game") Emotion matching game built using Microsoft Cognitive Services.

ParkWare

2016

Web Developer

- Prize Winner ("Best use of Amazon Web Services") Parking space detection web service using machine learning to detect cars in parking lots.
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LEARNING

Data Science Nanodegree (Udacity)

2021

- Dog Breed Classifier Project Article

Deep Learning Specialization by Andrew Ng (Coursera)

2018

LANGUAGES AND INTERESTS

Languages: English (Native) • Malay (Limited Working)

Interests: Game Development • Boulderling • Movies
