

Aaron Low Weng Soon

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Work Experience

Motional

Research Engineer (Sensor Calibration)

2020 - 2023

Senior Research Engineer (Sensor Calibration)

2023 - Present

- Research and development of solutions for sensor (cameras, LIDARs, radars, IMU) calibration and validation for autonomous vehicles
- Developed tools in C++ to enable users to visually inspect sensor calibration and run calibration algorithms
- Developed deep learning infrastructure with PyTorch as well as training and evaluating models
- Implemented data pipelines for analyzing metrics, collecting deep learning datasets leveraging SQL databases and cloud solutions

Aptiv

2020

Autonomous Vehicle Intern (Sensor Calibration)

- Implemented deep learning based methods for sensor (cameras, LIDARs) calibration for autonomous vehicles based on RegNet
- Processed and curated datasets to train and evaluate deep learning models
- Deployed models into production with TensorRT

Materialise

2016

Software Engineer Intern

- Designed and developed a Microsoft Paint inspired application
- Contributed to the development of 3D modelling software

Accenture

2015

Solution Architect Intern

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

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

Selected modules: Linear Algebra • Probability and Stochastic Processes

• Machine Learning • Computer Vision • Algorithms and Complexity •

Parallel Computing • Optimisation

Thesis: DEPTH TO COLOUR TRANSLATION FOR 3D HAND POSE ESTIMATION FROM

MONOCULAR RGB WITH GENERATIVE ADVERSARIAL NETWORKS

HELP Academy

2013 - 2014

Edexcel A-Levels

4 A* Chemistry • Physics • Mathematics • Further Mathematics

Projects

UniCal

2023

Researcher

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.

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| <u>Without Abandonware</u> Game Developer Entry to the <u>Game Off 2021</u> game jam A 2D platformer written in Unity with C# | 2021 |
| <u>Autonomous Snack Delivery Android (ASDA)</u> Development of Robot Navigation Autonomous robot that is capable of manoeuvring a building and taking an elevator to obtain and deliver snacks | 2017 |
| <u>Emocoaster</u> Game Developer Runner-Up ("Best Game") Emotion matching game built using Microsoft Cognitive Services | 2017 |
| <u>NeuroSpell</u> Python Developer Low-cost brain computing interface that allows motor impaired people to type by looking at an on-screen keyboard | 2016 |
| <u>ParkWare</u> Web Developer Prize Winner ("Best use of Amazon Web Services") Parking space detection web service using machine learning to detect cars in parking lots | 2016 |

Technologies

Programming: Python • C++ • C# • SQL

Web Development: HTML • CSS • JavaScript

Deep Learning: PyTorch • TensorFlow • Keras • Pandas

Cloud Development: Serverless • AWS Services • Terraform

Other tools/frameworks: Jenkins • Ixc • ROS • docker • Bash • git • Unity

Operating Systems: Windows • Linux

Teaching

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| <u>HELP University</u> Lecturer, Faculty of Computing and Digital Technology • <u>Lectured introductory programming</u> • <u>Presented deep learning tutorials to both staff and students</u> | 2019 - 2020 |
| Imperial College London Undergraduate Teaching Assistant, Introduction to Computer Architecture Taught ARM assembly during programming tutorials | 2016 |
| Imperial College London Game Development Society Co-founder and Secretary Provided free tutorials on game development using C# and Unity | 2015 - 2018 |

Learning

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| <u>Data Science Nanodegree (Udacity)</u> <u>Dog Breed Classifier Project Article</u> | 2021 |
| <u>Deep Learning Specialization by Andrew Ng (Coursera)</u> | 2018 |

Additional

Languages: English (Native) • Malay (limited working)
