

ARAN SMITH

Dublin

Ph: 0436684832/0857802709 ◇ aransmith2@gmail.com ◇ [linkedin](#)

EDUCATION

University of Southampton

2018 - 2019

MSc. Artificial Intelligence *with Distinction*

Deep Learning – Machine Learning – Reinforcement & Online Learning

Dublin City University

2012 - 2016

BSc. Computer Applications & Software Engineering, *2.1 honours*

WORK EXPERIENCE

Fidelity Investments

Apr 2017 - Sep 2018

Associate Performance Engineer

Dublin, Ireland

- Performed user load tests, and diagnosed performance issues on internal sites and services. I Elicited performance requirements from service partners, such that I could write and execute the desired tests to ensure that site up-time could be maintained during peak user activity. Based on these tests, I informed teams where improvements could be made, and delivered reports for the system release.
- I reported my progress in daily scrums, took part in Sprint planning and retrospectives, as well as helped maintain the team's Jira task board.

Fidelity Investments

Sep 2016 - Apr 2017

Leap Associate SE Track

Galway, Ireland

- Enrolled in Fidelity's graduate program which prepared me for working with the company's technology stack, as well as other business communication, and presentation skills.

Fidelity Investments

Apr 2015 - Sep 2015

Trainee Software Developer/Programmer

Dublin, Ireland

- Summer internship trialling a NoSQL proof of concept. Java Spring REST APIs were utilised to invoke Cassandra database calls. Developers will have a quick reference to an example project where Cassandra is used with the company's current tech stack.

The University of Skövde

Jun 2014 - Aug 2014

Research Assistant

Skövde, Sweden

- Worked on a sound localisation project using Fourier transform.
- Designed a work bench to monitor child-robot interaction in experiments for the DREAM project. <https://www.dream2020.eu/>
- Wrote an installation guide for C/C++ best practices, and a software installation for C/C++ on the NAO robot for future researchers to use during their initial on-boarding.

TECHNICAL STRENGTHS

Programming

Java, Python, C++11, SQL

Software & Tools

Linux, Pytorch, NumPy, matplotlib, Git, Google Cloud Platform, Jenkins
scikitlearn

ACADEMIC PROJECTS

Dissertation: Intelligent Trial and Error with the R-Hex Robot

I utilised the MAP-Elites evolutionary algorithm to develop novel gaits for the R-Hex robot, enabling greater autonomy in deployment, and taking the first steps toward enabling recovery to damage and environmental constraints in R-Hex robots deployed in a swarm. The novel [Intelligent Trial & Error algorithm](#) is used to allow the R-Hex to adapt like an animal when it loses a limb, or encounters previously unseen obstacles.

<https://github.com/AranBSmith/R-Hex-ite>

[MSc Dissertation](#)

Few-shot optimization with Meta-Learning

For my MSc Deep learning module I worked in a group to reproduce results from an ICLR paper. This involved training a meta-learner to efficiently train an image classifier with just 5 or 10 images. In doing so, a CNN could learn to classify images with very few examples. We successfully produced those results, and applied the same ideas to recognise numbers from the MNIST digits dataset.

<https://github.com/COMP6248-Reproducibility-Challenge/few-shot-optimization>

[Few shot optimization report](#)

Diabetic Retinopathy Detection

This project involved using CNNs, SVMs, and network tuning to distinguish different levels of Diabetic Retinopathy in patients. Challenges here included producing appropriate feature vectors, handling a large imbalanced dataset, and noisy/corrupted training images.

[DR Report](#)

Receipt Logger

BSc. Final year project enabling users to log receipts through a smart phone. This project involved developing an Android app which utilised Tesseract optical character recognition to extract expenses from images, so users can log receipts on the go. Finally the app hooked up to a Java REST web service where expense records were stored and retrieved from an SQL database. I gained much exposure to CI/CD during this project with the jenkins framework, where I triggered builds from git pushes, and incorporated test driven development.

<https://github.com/AranBSmith/ReceiptLogger>

<https://github.com/AranBSmith/ReceiptLoggerService>

Other

For my other work, please see <https://github.com/AranBSmith> and <https://drive.google.com/portfolio>

PERSONAL

DOB: 09/10/1994

Nationality: British/Irish