JOEL CLARKE

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Profile

A Computer Science graduate looking for a job in Software Engineering, preferably with either Artificial Intelligence, Machine Learning, or Data Science applications.

Languages

Python 3, NodeJS (ES6), HTML / CSS, SQL, Java, Rust

Technologies

PyTorch, NumPy, Jupyter Notebook, VueJS, FeathersJS, Redis, SQLite, Dart, AWS ECS, Git, CircleCI, Weights and Biases

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Experience

PhD

Royal Holloway, 2018 - 2022

My research was dedicated to improving voice assistants to handle stammered speech through the use of machine learning and deep learning techniques.

I developed a data gathering web application named "Stammered Voice", inspired by Mozilla's "Common Voice" web application. I used VueJS for the frontend and FeathersJS for the backend on top of an SQLite database - all hosted on an AWS Lightsail server.

I created tools for manipulating fluent speech datasets to create a synthetic dataset of stammered speech in Python 3.

I developed an experiment suite using Python 3 and PyTorch. The suite utilised CUDA to conduct experiments on the GPU and reported results using the Weights and Biases web application. These ran on an AWS EC2 server.

Research Assistant

Royal Holloway, Summer 2017

I assisted a PhD student with research dedicated to looking for insecurities in SSL Certificates for Android Apps using a program called Mallodroid. I developed a script in Python 3 to run Mallodroid over a large corpus of apps and produce a mapping of apps to faults, and another to summarise said mapping to provide a report of the corpus' faults.

Royal Holloway, Summer 2016

I assisted a PhD student with research that utilised machine learning to assign symbols to stripped binary files. I developed a script in Python 3 to match the symbols to the correct stripped functions based on the signatures of the functions.

Teaching Assistant

Royal Holloway, September 2018 - March 2022

I mentored Computer Science students in the areas of Object Oriented Programming, Databases, and Intelligent Agents by assisting them in labs and marking their code.

Projects

Ivy

github.com/unifyai/ivy

I contributed to a project called Ivy - a deep learning framework programmed in Python 3 dedicated to providing a platform that unites other frameworks: NumPy, PyTorch, Tensorflow, and JAX. I implemented the 'convolve' method in their NumPy backend.

VacuumWorld

github.com/dicelab-rhul/vacuumworld

I contributed to a project called VacuumWorld - a multi-agent simulation platform, with implementations in Java and Python 3, used for practical lab work in the Royal Holloway Intelligent Agents course.

Education

First Class Computer Science BSc

Royal Holloway, 2015 - 2018

I picked up a wide variety of languages and skills during my undergraduate studies. My course included modules such as Intelligent Agents, Machine Learning, and Data Visualisation.

Other

- Current voluntary member of the Leadership Team at The Journey Church.
- Tutored secondary school students in Maths and Sciences.
- Wide range of voluntary experience in customer facing roles, for which I have won awards.