

# JOEL CLARKE

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## Profile

A Computer Science graduate with leadership experience looking for a job in Software Engineering with AI/ML applications.

### Languages

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

### Technologies

PyTorch, VueJS, FeathersJS, AWS ECS,  
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 front end 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.

## Member of Leadership Team

The Journey Church (2018 - Present)

I lead a church as part of a voluntary team. I take on a variety of administrative tasks, mainly to do with managing finances, updating our website, and maintaining relationships with other churches and Christian initiatives.

## Projects

### Bible Bot

I developed a program capable of reading the comments made on specific subreddits, identifying a reference to a bible verse, and posting the referenced excerpt as a response. I did this initially using Python 3 and the praw library, and then again using Rust and the orca library for increased reliability and performance, using AWS S3 to store config information.

## Education

### First Class Computer Science BSc

Royal Holloway, 2015 - 2018

Including modules in Intelligent Agents, Machine Learning, and Data Visualisation.