

# Vivienne O'Brien

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## EDUCATION

### MSc Computer Science, Grade prediction: Distinction

University of Birmingham, Edgbaston, Birmingham B15 2TT, United Kingdom  
GPA: 4.25/5

September 2019 - September 2020

### BA (Joint Hons) Education & Design (Specialisation: Visual Communication), II.I

National College of Art and Design, 100 Thomas St, The Liberties, Dublin, Ireland

From Jan 2018- Dec 2019 I was working full time as a Visual Arts & SPHE Post-Primary teacher-volunteer, teaching 200 students aged 12-18 a week from 9-4pm while balancing my studies and working part-time.

Teaching Portfolio: <https://vivienneobrienis.wixsite.com/teachingportfolio>

Suas Education Development Programme Volunteer- 3 months teaching Math & English in Kolkata, India.

September 2014 - June 2019

## SKILLS

- Backend: Java, Spring/ Spring Boot, Python, PostgreSQL, MySQL MongoDB & Mongo Express.
- Machine Learning: Tensorflow, Keras, Pandas, NumPy & Matplotlib.
- Front-end: React Native, Expo, React, HTML, CSS, Bootstrap & JavaScript.
- UX/UI Design: Adobe Indesign, Adobe Illustrator, Adobe After Effect, Adobe Photoshop, Adobe Lightroom & basics of Cinema 4D.
- Other: Git & Github.

## WORK EXPERIENCE

### Machine Learning Engineer

#### Final Project

June - September 2020

- Exploring the effect of COVID-19 fatality rates on the Foreign Exchange Spot Price of a currency pair (GBP/USD) through shallow and deep learning neural networks.
- Part 1: Proved that there is no correlation between COVID-19 fatality rates and the Forex spot price (GBP/USD) nor Brent Crude Oil and the Forex spot price. However there was a weak-moderate negative linear relationship between COVID-19 fatality rates and diesel prices and the diesel prices had a weak-moderate positive linear relationship with the Forex spot price.
- Part 2: The Long short-term memory (LSTM) model outperformed the Convolution Neural Network (CNN) when predicting individual relationships in the network however when all inputs were used at once, the CNN outperformed the LSTM.
- Part 3: The baseline model i.e. Simple Linear Regression outperformed regularisation, ensemble and deep learning neural networks (LSTM and CNN) when predicting univariate data series i.e. Forex spot price as a single input despite regularisation methods such as dropout layers, early stopping and data augmentation applied to the deep learning model.
- URL: [https://github.com/vivienneobrien/final\\_project](https://github.com/vivienneobrien/final_project)
- Technologies used: Google Colab, Jupyter Notebook, Python, Scikit-learn, Tensorflow, Pandas, Keras, Numpy & Matplotlib.

### Co-Founder & Full Stack Developer

#### Tattooder

May - Current 2020

- This app matches users with tattoo artists. Our app is unique due to the tinder-like user interface provided.
- Carring out unit tests using Mockito that equates to an overall coverage of 20% of the applications current backend methods.
- Working in an Agile environment where the team meets for weekly Scrums to go over project updates and showcase demos for iterative feedback. This application should be deployed by the end of the year using a docker image.
- React-Native and Expo Client are being used to create the front-end components.
- Spring/ Spring Boot Maven, MongoDB and Mongo Express are used to create a backend that stores user data.
- Adobe Suite is being used to maximise the user experience through prototyping and to create a brand identity for the product.

### Full Stack Developer

#### Arcadia

April - May 2020

- "Arcadia" is a gaming platform where users can play multiple games and chat online.
- As part of a team of four, our first full-stack web application was developed in just under a month during the height of Covid-19.
- We built a snake, tetris and simon/e says game and improved performance by using multithreading and client-side sockets.
- This project was written using Java and a library called Swing to set up the GUI interface. A database was set up using PostGre SQL.
- Version control was carried out using Git in the command line. URL: <https://github.com/vivienneobrien/Arcadia>

### Coding Mentor

#### CoderDojo

September - November 2018

- Broke down difficult concepts related to programming to 20 students from ages 6-18 from non-technological backgrounds.
- Mentored and inspired students through various projects to help them maintain a strategy to move forward and continue their programming adventure. Focused languages used: Scratch, HTML and CSS.

## AWARDS

### The Union Survives

#### Best British Book Design & Production Award Finalist 2019 (Student Category)

- Project Output: A book which discusses how young people in Ireland define their gender identity.
- URL: <https://vivienneobrien.github.io/theunionsuvives.html>