Marko Mekjavic

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https://github.com/Pompey21

Education

University of Edinburgh (class of 2022)
BSc (Hons) Computer Science

Bežigrad Gymnasium (class of 2018)
International Baccalaureate

Languages

Slovenian • Croatian • English • Serbian • Spanish

Programming skills

Python • SQL • Java • Haskell • Javascript

Experience

Credit Risk Intern @ JP Morgan • June - August 2021

- **Developed Assistant Bot** for internal trading platform system, using varies Natural Language Processing techniques. The bot provides traders with the necessary data analysis as well as an estimated time of arrival of various reports and market updates.
- **Built Plato-Symphony Notification System** for notifying traders about their trading positions through internal chat system. This was accomplished using Symphony's API and Python as development environemnt.

Data Scientist Intern @ Gen-I • July - August 2020

- **Prepared data analysis for different projects,** which included implementation of various data mining techniques, including web scrapping for building language corpus as well as retrieving and filtering data from relational databases using SQL.
- **Developed various trading algorithms** for trading different energy derivatives, ranging from hedging algorithms to minimise risk exposure, to algorithms for wind energy trading by looking at the movement of wind and weather forecast to predict production capabilities of wind and solar farms.

Web-Dev Intern @ InfinCUBE • May - June 2020

- **Implemented new and maintained existing client-facing features**, which involved completing both, front end in Vue framework for JavaScript, and back end in Django framework for Python. Sometimes this required complete restructure of the back end system and migrations had to be performed on our database.
- **Worked on a large code legacy** and rewrote some important methods while also introducing new functionalities to our internal REST API system, which were used in various projects.

Personal Projects

Construction of a Neural Network

- Built a three layered **neural network with one hidden layer for binary classification** detecting location of object in a two-dimensional space. Implemented two different sets of neurons using both a simple step and a sigmoid functions and calculating the appropriate weights.

One for Alvin and the Chimpmunks

- Built a **model for hazelnut production and price prediction** for different regions across the World. Used satellite data such as temperature, humidity and weather forecast for training the model.

Market-making Hedging

- Participated at a competition organised by a market-maker Optiver where we had to implement various **hedging algorithmic strategies** for trading with various derivatives, including options and futures. We learnt about risk assessment and how to solve complex financial problems using simpler methods.

Optimal Connect 4 Player

- Programmed an **Optimal Connect 4 with a Twist Player** in Haskell programming language. Used principles of zero-sum games and implemented classical minimax algorithm which I upgraded by implementing the alpha-beta pruning to decrease time complexity.

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- Implemented **real-time Morse alphabet decoder & encoder** using Python for purposes of decoding messages sent via radio. Used probability theory principles in order to account for noise in the signal and prevent it from damaging the message.