Arjun Prakash

Data Scientist | ML Engineer

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Professional Experience

Deloitte Consulting (Analytics and Cognitive),
Graduate Consultant
Mar 2020 – present | Sydney, Australia

- Analysed the use of restrictive language in NSW legislation and generated insights featured in the RegExporer whitepaper.
- Implemented an object-oriented solution to consolidate data resulting in a maintainable code base for the Fringe Benefits Tax Team.
- Prototyped and prioritised data strategies for NSW Government's COVID-19 response.

Mitsubishi Electric R&D, *Data Science Intern*
Dec 2019 – Feb 2020 | Fujisawa, Japan

- Reviewed literature on geo-trajectory data and built a two stage classification/regression model to predict when a user returns home for IoT devices.
- Features, insights and recommendations were used in production by the Advanced Machine Learning Group.

Intela AI, *Data Science Intern*
Jan 2019 – Feb 2019 | Wellington, New Zealand

- Built a convolutional neural network to identify rugby formations from video footage.
- Applied SpaCy to pre-process, and Word2Vec to embed veterinary notes and find insights into animal diagnoses.
- Investigated the travel patterns of age-care workers which resulted in a successful business proposal.

Fund3, *Data Science Intern*
Dec 2017 – Dec 2018 | Santa Monica, USA

- Implemented complex kernels and support vector machines to forecast volatility of the top cryptocurrencies.
- Managed a team of students to deliver an automatic messaging system that notified users of unusual activity on the blockchain.

Projects

Stan Droid, *St Andrew's College Chatbot*
May 2017 – present

- Developed a customer service chatbot for students and admin staff of St Andrew's College, University of Sydney, with continuous integration and unit testing.
- 90% uptake and over 100 thousand messages per year.

Scopus Miner, *Australian Defense Force Academy and University of Sydney Software Engineering Group Project*
Jul 2018 – Nov 2018

- Engineered, using an Agile methodology, an NLP web app that extracts rich data from academic literature and presents insights in a visual and interpretable format.
- Primary contributions were the use Neo4j to represent relationships as an interactive graph, and LDA to model topics.

Education

University of Sydney, *Computer Science & Business Analytics (Double Bachelor Degree)*
2015 – 2019

- Computer Science (Hons I): Focused on programming with an emphasis on algorithms & data structures.
- Business Analytics: Focused on statistical methods to understand data for forecasting and machine learning.

University of Southern California, Marshall School of Business, *Exchange Semester*
2017

- Lavalab Incubator: Created a Hubspot-like CRM web app with Vue.js.
- Studied subjects focusing on entrepreneurship, technology and management consulting.

Research

Clustering volatility regimes for dynamic tradings strategies,
Submitted to the Journal of Economic Dynamics and Control
2020

- Proposed a novel online change point detection method to segment financial time series and cluster volatility regimes.
- Created and validated a novel online risk-avoidance regime switching trading strategy.

Skills

Data Science
Forecasting, Machine Learning, Deep Learning, NLP, SHAP

Data Science Tools
Jupyter, Pandas, NumPy, SciPy, Scikit-Learn, Keras, TensorFlow

Programming Languages
Python, R, C++, C, Java, SQL

Software Enginineering Tools
Github, Dialogflow, CircleCI, PostgreSQL, Heroku, Firebase, Neo4j, Linux, Agile

Awards

Microsoft Asia Senior Research Prize, *University of Sydney*
2019
Awarded for Scopus Miner.

Taylor Scholarship, *St Andrew's College*
2018
Awarded twice for Stan Droid.