Ash Bellett

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Data science and software engineering professional with 3 years of technical consulting experience in analytics, artificial intelligence and application development.

Experience

IBM Jun. 2019 – present
Senior Technical Consultant
Developed an advanced analytics platform using Node.js, Python and Tableau to increase containment of a consumer-facing virtual assistant for a large telecommunications client.
Created a cognitive search and research tool using Typescript, Node.js, React and various IBM Watson APIs to assist knowledge transfer between electrical engineers for a large energy client.
Built a cognitive search-enabled virtual assistant using Typescript, Node.js, the Slack API and various IBM Watson APIs to assist drivers understand complex road rules for a Defence department.

IBM Feb. 2018 – Jun. 2019
Technical Consultant
Contributed to a large case management system using Javascript and Python to assist knowledge workers with processing complex workflows for a large government client.
Collaborated with IBM Research to propose an NLP solution that can assess whether the financial advice given by banks supports customers' goals for a large financial services client.
Designed an internal virtual assistant application to help call centre staff respond to customer policy questions for a large insurance client.

IBM Graduate Network - Australia and New Zealand Jul. 2018 – Jul. 2019
Chief Digital Officer
Designed, built and deployed the IBM Graduate Network web application using Node.js, HTML and CSS to transition from text-based newsletter content to interactive media.
Recorded, edited and published a video interview series with IBM leaders to share their experiences with the IBM graduate community.
Shaped the digital strategy of the IBM Graduate Network by advocating adoption of various social channels like Slack and web-based video messaging.

Mingara Australasia Nov. 2016 – Nov. 2017
Data Analyst
Performed geospatial data analysis using GIS software and SQL to inform the design of a large wireless communications network for a state government client.
Presented exploratory data analysis of census data to justify design decisions for emergency services clients.
Carried out statistical analysis using Excel and VBA to support presentations with various stakeholders and clients.

Education

Monash University Feb. 2013 – Nov. 2017
Bachelor of Engineering (with Honours)
Electrical and Computer Systems
Honours Thesis: *"Optimisation of Relay-Assisted Wireless Systems in Quasi-Static Environments using Ray Tracing"*.
Published a conference paper at the IEEE ITNAC 2017 conference.
Completed a Masters unit on Wireless Communications which covered advanced topics in signal processing, probability and information theory. Received a High Distinction grade.

Projects

Playing video games with deep reinforcement learning
`python`, `gym`, `tensorflow`
Implemented a Deep Q-Network algorithm to land a 2D rocket on the surface of a moon using OpenAI's Gym simulation environment. Currently ranked 3rd on the OpenAI GitHub leaderboard for the Lunar Lander environment.

3D simulation with objects, physics and lighting
`javascript`, `three.js`
Built a 3D world using the Three.js library with programmatic objects, physics, lighting and camera configurations. Features include object dynamics, object collisions and object destruction.

Portfolio optimisation using historical stock price data
`python`, `numpy`, `pandas`, `scipy`, `matplotlib`, `cvxpy`
Framed stock selection as a mixed-integer quadratic programming problem and solved it using a convex optimisation library. Identified stocks to create a portfolio with highest return and lowest variance from ASX historical stock price data.

Dating analysis and predictive modelling
`python`, `numpy`, `pandas`, `scipy`, `matplotlib`, `scikit-learn`
Built a machine learning model to determine whether a partner will match with their date based on dating preferences and personal background information. Included exploratory data analysis, feature engineering, hyperparameter tuning, model ensembling and model selection.

Awards

IBM Inferno Award 2019
Awarded to the 3 highest achieving graduates in their first year at IBM.

IBM Think Prize 2019
Attended the IBM Think technology conference in San Francisco for demonstrating high impact to clients.

4 × IBM Manager's Choice Awards 2018
Awarded to employees who exemplify IBM's values and accomplish project success.

Monash Dean's Honours List 2017
Awarded to students who achieved an average of 80% or above during the academic year.