# Simon Petre

## Data Scientist

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## Profile

Data science graduate and experienced energy trader looking to apply data science, business and statistics skills and advanced mathematics background to a role in data science

## Skills

**Technical**

Python (e.g. scikit-learn, Pandas, matplotlib), VBA for Excel, SQL, Spark, Hadoop

MongoDB, A/B testing, Bayesian analysis, machine learning and linear algebra. Linear Regression, Logistic Regression, Random Forest, SVM, Boosting, K-Means, Hierarchical Clustering, KNN, Recommendation Systems, Naive Bayes, NLP, PCA, SVD, Neural Networks.

## Experience

**Data Science Immersive**                                                02/2016 – 05/2016
*Galvanize, San Francisco*

Developed fitness app that recommends music for the user to listen to based on their desired running speed and music preferences, using matrix factorisation techniques

Three month intensive program covering various data science techniques and machine learning algorithms and their implementations

88% average on assessments

Used gradient boosting to predict churn in new users in a ride-sharing company and used model results to formulate business insights

Built movie recommender system by implementing matrix factorisation on an external movie ratings dataset

**Snowy Hydro Limited**                                                01/2008 – 01/2017
Snowy Hydro is Australia's largest hydropower generator, supplying 14% of Australia's east coast electricity needs on average and hedging the majority of that through the traded market

*Energy Derivatives Trader*                                                09/2012 – 01/2017

Assessed and analysed market sentiment, movement and data in order to determine the optimal time to effect trading activity

Formulated and executed trades/strategies to hedge Snowy Hydro's electricity market risk, including negotiating with external counterparties and energy brokers

Established weekly energy market strategy report, circulated on a weekly basis to key stakeholders across the business

*Energy Derivatives Analyst*                                                09/2010 – 09/2012

Developed algorithm to process market constraint data and glean other market participants' forecast generation schedule

Developed a variety of spreadsheet tools, including an options pricing model and an arbitrage pricing curve

Prepared and presented pricing reports, including analysis and assessment of viability and pricing of prospective contracts for other market participants

*Spot Electricity Trader* 01/2008 – 09/2010

SQL database interrogation, retrieval, processing and synthesis of market data (from in the order of 500 million rows of data)

## Education

**Bachelor of Advanced Mathematics (1st class research honours)** 2004 – 2007
*University of Wollongong, Australia*

Distinction average across course

Honours project titled *New Methods of Pricing Weather Derivatives* – developed a method of modelling two different temperature indices, and then formulated both an analytical and a numerical pricing formula to value derivatives based on these indices