Felipe A. Marín Perucci, Ph.D.

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Summary

- *Research Scientist with 10+ years of experience in project management, data analysis and modelling in Astrophysics, now seeking roles in Business Analytics and Data Science.*

- *My goal is to apply my data-driven analytical knowledge and skills to challenging problems, generating insights and implementing solutions that help strategic decision-making.*

- *Extensive communication experience, as author of 12 publications in peer-reviewed astronomy journals and 20+ oral presentations in 8 countries for specialized and general audiences.*

Education

Ph.D. in Astronomy & Astrophysics, University of Chicago, Chicago, USA (2003-2010).

- Fulbright (USA Department of State) & CONICYT (Chilean Research Council) PhD Fellow (2003-2007).

B.Sc. (Licenciatura) in Astronomy, Universidad de Chile, Santiago, Chile (1998-2002).

- Beca Universidad de Chile & Moisés Mellado (1998-2001): Full tuition + stipend based on academic merit.

Additional Training

Pivigo Academy, London, UK (October – November 2015)

- *S2DS (Science to Data Science) Virtual Program:* 5-week workshop for scientists transitioning to business analytics roles.

Online courses and specializations:

- *Analytic Techniques for Business & Strategic Business Analytics* (Coursera).

- *Data Science & Machine Learning* (Coursera).

- *Introduction to Corporate Financial Analysis, Credit Risk and Financial Engineering* (Coursera and edX).

Experience

S2DS Fellow (internship), Adzuna UK (October-November 2015)

- Used Text Analytics methods in the R programming language to cluster and categorize 100k job ads.

- Developed a skills-based machine learning model to recommend job ads to candidates.

Postdoctoral Researcher, Swinburne University (2010 – 2015)

- Implemented Monte Carlo methods in Matlab to constraint multi-parameter models, I led the most advanced test to date of models of cosmic flows in galaxy surveys, improving model confidence by 15%.

- Led measurement and analysis of higher-order spatial correlations of $85M SDSS and $4M WiggleZ galaxy surveys, using C and Python scientific libraries, obtaining improved and independent constraints of structure growth parameters confirming the current cosmological model.

- Developed 3000+ simulated galaxy maps in university and national supercomputing facilities to support modelling of structure formation and forecasts for future research programs.

Research Assistant, University of Chicago (2004-2010)

- Worked on higher-order galaxy clustering in galaxy data simulations to improve models of large-scale structure formation.

- Theoretical multi-parameter modelling of large scale structure to be used in forecasts for specialised astronomical surveys, in use by projects currently in construction.

Skills Summary

Data Analysis & Modelling:

- Data mining, Uncertainty Estimation, multi-dimensional Clustering Analysis, Principal Components Analysis.
- Statistical Inference, Hypothesis Testing.
- Text Mining & Analytics: Natural Language Processing, Latent Semantic Analysis.

Machine Learning

- Applied Bayesian Statistics, Monte Carlo Methods
- Linear & Logistic Regression Models.
- Neural Networks, Decision Trees and Random Forests, Naïve Bayes Classification.

Computing:

- Linux scripting, distributed systems.
- Expertise in MS Word, Excel, Powerpoint. Version Control (git).
- Expertise in Matlab, R & Python (Numpy, SciPy, pandas, graphlab).
- Intermediate experience in SQL and C.

Fundamentals of Business Analytics & Finance:

- Customer Segmentation, Targeting and Scoring Models.
- Forecasting, Customer Lifetime Value.
- Simulation and Optimisation for Operations.
- Introductory Financial & Accounting Analysis, Discounted Cash Flow Techniques.
- Financial Markets, Portfolio Diversification and optimisation, Risk identification and management.

Miscellaneous

- *Languages:* Fluent in English, Spanish (Native). Conversational fluency in Portuguese.
- *Citizenship:* Australian and Chilean.
- *Leadership*: President of Physics & Astronomy Student Association (2001, Universidad de Chile). Past Board member & Instructor at Ballroom & Latin Dance group (2007-2010,University of Chicago).
- *Interests*: Travel, Music, Science Outreach, Public Policies, Latin American social issues.
- *Kaggle Profile (Data Science)*: http://www.kaggle.com/fmarinp
- *Github (Data Science, Business Analytics & Finance)*: https://github.com/fmarinp
- *Bitbucket (Research):* http://bitbucket.org/fmarinp