Aditya **Ravuri**

STATISTICIAN · DATA SCIENTIST

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Education

University of Cambridge   *Cambridge, UK*

MPHIL IN MANAGEMENT   *Oct. 2016 - Jun. 2017*

- Commendation (70%, top 25%). | **Audits:** Measure Theory, Philosophy of Science | **Focus:** Strategic Valuation (top prize), Economics.
- Published in the CU AstroSoc's astrophotography magazine.

Heriot-Watt University   *Edinburgh, UK*

BSc HONS IN ACTUARIAL SCIENCE, **STATISTICS MAJOR**   *Sep. 2013 - Jun. 2016*

- **Awards:** Distinction (83%) (top 3%), CT1-CT8, Volunteering - Bronze (ChessSoc President, Union Exec, Mentor). Graduated at age 18.
- **Focus:** Statistics, Quantitative Risk Management, Mathematical Finance. **Project Areas:** GARCH models, copulas, extreme value theory, stochastic calculus, liquidity risk, economic scenario generators and advanced statistical inference. Published in the actuarial magazine.
- Awarded Highest Honors for performance on the HBX: CORe & Harvard Summer School - subjects included analytics and economics.

Skills

Programming	R (proficient), Python (intermediate/advanced), C/C++ (basic), SQL (basic)
Frameworks	Stan, JAGS, PyMC3, Keras, Tensorflow, Spark, SciPy Suite, data.table, Rcpp, Cython
Web Apps / Viz	GGPlot, Shiny, Dash, Plotly, Flask (basic)
Languages	English, French (basic), Japanese (basic), Hindi, Telugu
Others	AWS, Git, LaTeX, Bash scripting, QT (basic)

Contributions

Webpage	falmity.com: Personal projects (e.g. speech synthesis using Gaussian Processes, conditional density estimation using Gaussian mixtures), ideas and miminal working examples (e.g. derivative kernels of GPs, stochastic variational inference for GPs).
SciPy PR	Pull Request under review on GitHub. Added a simple function to calculate Toeplitz matrix-vector products in log-linear time using the FFT. This can be used with a preconditioned conjugate gradient algorithm for fast solving.
Cross Validated	Top 2% in 2018. My proof on posteriors being proper when constructed using exponentiated likelihoods was used in a paper.

Experience

Barclays   *London, UK*

QUANT ANALYST + DEVELOPER, AVP   *Dec. 2018 - Present*

- Designing and implementing large-scale statistical models for forecasting the evolution of portfolio balances, accounting for individual behavior. I'm responsible for the modelling of certain portfolios - term deposits, loans, wealth, savings and mortgage applications, mainly using markovian models, regularised and hierarchical GLMs, GAMs and models involving time series.
- In three cases (involving data cleaning, data structure manipulation and Monte Carlo simulation), reduced execution time of critical model components from days to seconds using Spark and C++.

Sciemus   *London, UK*

DATA SCIENTIST + STATISTICIAN   *Sep. 2017 - Dec. 2018*

- Was involved with building and maintaining end-to-end stats/tech related solutions, particularly in the space, weather and power business areas. This involved data cleaning, analysis, modelling, documentation, web-app development and deployment, basic server and database maintenance, research and development of infrastructure (e.g. aiding development of a distributed computing cluster on AWS).
- On the modelling side, I've worked with GLMs for assessing risk probabilities, Hidden Markov models & sparse Gaussian Processes to model rates based on large-scale weather data, simple random fields in the form of CNNs to model rainfall data, importance sampling & subset simulation to accelerate simulations, fuzzy logical risk models, basic prior elicitation & associated Jacobian adjustments.

Coloplast   *Peterborough, UK*

DATA SCIENCE INTERN   *Jul. 2017 - Aug. 2017*

- Aided implementation of a seasonal time series forecasting model. Introduced loss functions, splines and linear filters to the implementation, linked model components, fit an ARMA model to the resultant error series and automated model fitting.

Jaguar Land Rover   *Cambridge, UK*

QUANT MANAGEMENT CONSULTANT   *May. 2017 - Jun. 2017*

- Modelled the contribution of Jaguar Land Rover to the UK economy in a highly collaborative setting. Conducted **original research** on improving the accuracy of multipliers within input-output theory by utilizing internal supply chain data. Highly commended for the work and presentation.