Samuel Hinton

Data Scientist | Software Engineer | Astrophysicist

Contact

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Education

2016–2020 **Doctor of Philosophy** University of Queensland
Bayesian statistics, hierarchical modelling of exploding stars, data and machine learning pipelines to streamline scientific analyses.

2010–2015 **Bachelor of Science** (Physics)(Hons, 1st) University of Queensland

2010–2014 **Bachelor of Engineering** (Software)(Hons, 1st) University of Queensland

Experience

03/2020 - Now **Lead Data Analyst | University of Queensland** Brisbane, Queensland, Australia
Part-time
Created a data science pipeline for the COVID-19 Critical Care Consortium. Homogenised and standardised heterogeneous medical data for eventual use in causal modelling. Created reports, dashboards, and data products as support for clinical staff.

01/2020 - Now **Astrophysicist | University of Queensland** Brisbane, Queensland, Australia
Part-time
Created data pipelines for international collaborations to run from data preparation to classification, modelling and reports. Created classifiers to discriminate between supernova. Applied high-dimensional modelling techniques on the large-scale-structure in the universe.

04/2019 - Now **Course Instructor | SuperDataScience** Sunshine Coast, Queensland, Australia
Casual Contract
Created courses on statistical analysis and data manipulation in Python for students. Focused on applied statistics and utilisation of modern code packages, with attention given to visual output and workflows for continuous validation of methodology.

Summer 2017 **Student Research Fellowship | Lawrence Berkeley Laboratory** California
Full-time
Solved the challenge of fitting high-dimensional astrophysical models using advanced numerical techniques, allowing more robust calculation of model uncertainty.

11/2015 - 02/2016 **Research Intern | Gemini & Australian Astronomical Observatory** Chile
Full-time
Reduced telescope data, engineered features, and applied machine learning techniques to classify extra-galactic candidates for follow up with the Hubble Space Telescope.

06/2010 - 09/2014 **Software Developer | GBST** Brisbane, Queensland, Australia

Part-time

Developed business intelligence reporting solutions for brokerage clients. Designed and developed server and client based web application code, creation of large scale SQL queries. Optimised queries, databases, and applications. Developed back-end server code and front-end web applications to improve reporting.

Noteable Awards

2019	**Future Superstar Award** Highest performing PhD student.	University of Queensland
2016	**Bok Prize** Best astrophysics honours thesis in Australia.	Astronomical Society of Australia
2016	**Australian Postgraduate Award**	Australian Government
2016	**Science Faculty Graduate of the Year**	University of Queensland
2016	**Australian Institute of Physics Prize** Top physics graduate.	University of Queensland
2016	**University Medal (Science)**	University of Queensland
2015	**University Medal (Engineering)**	University of Queensland

Other awards available on request.

Skills

Languages: Python, C, C++, Javascript, SQL, Java, Stan, Git.

Techniques: Machine learning, Numerical Optimisation, Visualisation, Bayesian Statistics, Model discrimination, Pipelines.

Communication: Experience communicating complex topics effectively in radio, TV (recorded + live), public lectures and presentations.

Publications: 6 first author, 45+ contributing author. Areas of software, statistics, astrophysics.

References

Prof. Tamara Davis: *+61 432 526 989*, tamarad@physics.uq.edu.au

Dr Sally Shrapnel: *+61 437 549 124*, s.shrapnel@uq.edu.au