

Samuel Hinton

B.E. Software Engineering (Hon), B.Sc Physics (Hon)

Contact

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Github
Personal

References available on
request.

Programming

JavaScript
HTML5 & CSS3
Python
Java
C, C++
Matlab
SQL
LaTeX

Bash
SVN
Git
Maven
Node.js
AngularJS

Interests

astrophysics
cosmology
computational physics
science communication
software design
web applications
3D modelling
rendering
photomanipulation
CGI & VFX
animations

Education

- 2010–2015 **Bachelor of Engineering** (Software) University of Queensland
Awarded 1st class honours and graduated top of engineering cohort. Undergraduate engineering thesis entailed writing the web-application Marz to redshift spectra from the AAOmega spectrograph for the OzDES team.
- 2010–2016 **Bachelor of Science** (Physics) University of Queensland
Awarded 1st class honours and graduated top of science cohort. Thesis project investigated the 2D BAO signal found in the final Wigglez dataset to constrain cosmological parameters.

Experience

- 2010–2014 **GBST** Brisbane, Queensland, Australia
Software Developer
Developed business intelligence reporting solutions for clients, designing and developing server and client based web application code, creation of large scale SQL queries, experience optimising queries, databases and applications for network, processing and memory constraints, developed back-end server code and front-end web applications. Prioritised implementation tasks for strict release schedules, delegated work tasks for other developers and reviewed incoming work for quality.
- 2015–2016 **Gemini & Australian Astronomical Observatory** La Serena, Chile
Research Intern
Internship for the Australian Gemini Undergraduate Summer Studentship. Utilised photometric data of Maffei 1 to determine globular cluster candidates and their properties for spectroscopic follow-up. Utilised data reduction pipelines, automated analysis methods in Python, and applied machine learning techniques to perform object classification.
- 2016–Now **Lawrence Berkeley National Laboratory** Berkeley, California
Research Fellowship
Research fellowship at LBNL to work on Bayesian Hierarchical Modelling and its applications to Supernova Cosmology. Specifically, investigating how to use high dimensional hierarchical models to model individual supernova instead of populations to provide better constraints on cosmology using supernova discovered by the Dark Energy Survey.
- 2016 **University Medal (Science)** University of Queensland
Awarded in recognition of outstanding academic success.
- 2016 **Bok Prize** Astronomical Society of Australia
Recognising outstanding research in astronomy by an Honours student or eligible Masters student over all Australian universities.
- 2016 **Australian Postgraduate Award** Australian Government
A PhD scholarship awarded to students of exceptional research potential.

Recent Awards

| | | |
|------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 2015 | Australian Gemini Undergraduate Summer Studentships | AAO |
| | Studentship at the Gemini South telescope awarded to 3 Australian students. | |
| 2015 | A.W. Oakes Scholarship | St John's College |
| | Awarded to an honours student of outstanding academic success and research potential. | |
| 2015 | AAO Honours Scholarship | Australian Astronomical Observatory |
| | Awarded to an honours student undertaking a research project co-supervised by an AAO staff-member. | |
| 2015 | Harriet Marks Bursary | University of Queensland |
| | Awarded to an science honours student for academic merit. | |
| 2014 | University Medal (Engineering) | University of Queensland |
| | Awarded in recognition of outstanding academic success. | |
| 2014 | David Andrew Krnak Memorial Prize | University of Queensland |
| | Awarded to the top graduating engineering student for outstanding academic performance. | |
| 2014 | UQ Future Leader | University of Queensland |
| | Recognises graduating students who have gone beyond their typical program of studies to make a positive impact on campus and community. | |
| 2014 | IEEE Student Thesis Prize | IEEE |
| | Awarded for the best final year thesis in all fields of electric engineering and information technology. | |
| 2014 | IET Student Prize | The Institution of Engineering and Technology |
| | Awarded to a student of outstanding academic accomplishment at the end of their degree. | |
| 2014 | GroundProbe Prize | University of Queensland |
| | Awarded for best thesis project in microwave, photonics & communications.. | |

Other Awards

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|------|------------------------------------------------------|-------------------------------------------------------|
| 2015 | Australian Institute of Physics Prize | UQ |
| 2015 | Rhodes Scholarship Finalist | Oxford University |
| 2015 | 10x Deans Commendation | UQ |
| 2015 | Helen Thompson Prize for All Round Excellence | St John's College |
| 2014 | RWH Hawken Scholar (2010–2014) | Awarded to highly performing students UQ |
| 2014 | UQ Summer Research Scholarship | UQ |
| 2012 | Exxon Mobil Achievement Award | Top mechanical engineering student. UQ |
| 2011 | Alstom Prize | Top electrical engineering student. UQ |
| 2011 | Walter Bruce Darker Scholarship | Top 3rd year engineering student. UQ |
| 2010 | UQ Academic Excellence Scholarship | UQ |
| 2010 | ICT Enabling Scholarship | UQ |
| 2010 | John Black Prize | Highest performing first year male. UQ |
| 2009 | OP1 | Highest possible secondary education exit score. QTAC |

Publications

Marz: Manual and automatic redshifting software
Hinton, S.R. et al.

Astronomy and Computing 15 (2016) pp. 61–71. 2016

OzDES multifibre spectroscopy for the Dark Energy Survey: first-year operation and results
Yuan, F. et al.

MNRAS 452 (Sept. 2015) pp. 3047–3063. 2015