Billy Liggins

Physicist / Data Scientist

"If I'm solving hard problems and plotting data, I'm happy."

07 March 1992

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About me

I am an enthusiastic capable young physicist with extensive experience and training in various techniques utilised in data science. To date I haveu 5 years experience in cutting edge research across 3 fields. With expertise in statistical data analysis, Monte Carlo methods and large scale data processing.

Skills (self assessed)

Python	8.5/10
C++	8.5/10
SQL	8.0/10
Java	5.5/10
Mathematica	5.0/10
JavaScipt	4.0/10
LaTeX	7.0/10

References available on request.

Education

Since 2015 — PhD candidate in particle physics — Queen Mary University of London

Thesis title : Low energy background muon induced neutrons in SNO+

Broad ranging research responsibilities/roles including a complete start to finish physics analysis, which processes, cleans and reconstructs large data sets in conjunction with adapted fast Monte Carlo productions.

Other responsibilities/ completed work include:

- Automated real time low level hardware anomaly detection.
- Assessment of possible detector calibration with in situ radioactive backgrounds.
- Low energy background classification projections.
- Maintenance of detector monitoring tools both GUI and web based.
- Active member of the SNO+ collaboration wide software reviewing committee.

2010-2015 — Master of Physics, MPhys Hons. — Loughborough University

Achieving a 1st class (81.3%). Dissertation in numerical quantum foundations

2003-2010 — The Priory School — Orpington, Kent

A Level : A Physics, A Maths, C Physical Educations (AS Level : c Chemistry)
GCSEs : 3 A's, 4 B's, 5 C's (including English and Maths)

Experience

Aug 2015 — Particle physics summer student — Queen Mary University of London

Working on background separation in SNO+.

Aug 2014 — EPSRC Bursary Student — Loughborough University

Numerical simulations of a low energy coupled quantum system evolving under a stochastically modified Schrödinger equation. The worked focused on measurement in quantum theory as a deterministic process, with a view to applications in new quantum technologies such as quantum computing.

Jun 2014 — STFC accelerator summer student — Cockcroft institute, Daresbury Laboratory

Carried out various Monte Carlo studies regarding low energy accelerator design, contributing to a conference publication.

2012-2013 — Student Accelerator Physicist — Cockcroft institute, Daresbury Laboratory

Design, optimisation & tolerance studies on the UK's next big accelerator (CLARA), resulting in four conference publications, including one as primary author. Duties also included running of existing accelerators, regular presentations and attendance of various internal and external training series.

2008-2010 — School Cleaner — The Priory School

2.5 hours after school everyday and full time in holidays.

Other Information

I take great interest in all things technology from open source software projects to the latest cybersecurity news. I have often found that being up to date with the latest developments provides elegant solutions to stubborn problems. I'm also a capped member of my local rugby club Westcombe Park RFC.

Funding and Awards

2018 — Recipient of the Institute of physics conference fund (£300).
2017 — Recipient of the Post graduate research conference fund (£1000).
2016 — Recipient of the best physics poster prize, Queen Mary UoL.
2010 — Recipient of the outstanding first year physics student award, Loughborough University physics department.

Publications

Found at `https://inspirehep.net/author/profile/B.P.M.Liggins.1`.