

Dr. Rob Lyon

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EDUCATION

UNIV. OF MANCHESTER

PH.D. MACHINE LEARNING

Awarded 2016

UNIV. OF LIVERPOOL

M.Sc. ADVANCED COMPUTER SCI.

Sept. 2011 | Distinction

B.Sc. SOFTWARE DEVELOPMENT

Sept. 2008 | First-class honours (1st)

SKILLS

GENERAL EXPERTISE

Data Analysis • Machine Learning (classifier design, data exploration etc.) • Performance Analysis • Independent Research • Technical Writing • Software Engineering & Testing • Agile Software Development • Public Speaking • HPC

PROGRAMMING

Advanced Proficiency:

Java • C++ • C • C# • Python •

Matlab • \LaTeX • HTML • Apache Storm

Intermediate Proficiency:

JavaScript • SQL • .NET • R •

Scikit Learn • iOS • Hadoop

LINKS

Github:// [scienceguyrob](#)

LinkedIn:// [roblyon86](#)

Twitter:// [@scienceguyrob](#)

EXPERIENCE

SCHOOL OF COMPUTER SCIENCE & JODRELL BANK CENTRE FOR ASTROPHYSICS

RESEARCH ASSOCIATE

Nov. 2015 – Present | University of Manchester, UK

- Produced prototype software for the Square Kilometre Array (SKA) consortia.
- Worked on the design of the SKA science data processor.
- Co-supervised PhD students working in machine learning.

RESEARCH STUDENT

Sept. 2011 – Sept. 2015 | University of Manchester, UK

- Trained in the first Doctoral Training Centre for computer science in the UK.
- My research focused on devising machine learning classifiers for the SKA. The aim was to produce a classifier able to identify rare pulsar signals in high throughput astronomical data streams.
- Worked extensively on data stream mining, imbalanced learning, feature creation & selection, within an area new to the principles of data science.
- Since July 2014 my work has helped astronomers discover 24 new pulsars, or ~0.94% of those currently known to science!

MERSEY SYSTEM | STEM AMBASSADOR

Nov. 2011 – August 2012 | Liverpool, UK

- Volunteered my time as a STEM ambassador to inspire the next generation.
- Supported a weekly STEM club in my local school, running computer science related workshops which taught programming principles.

APPSENSE | PERFORMANCE ANALYST & TESTER

July 2008 – August 2010 | Daresbury, UK

- Responsible for analysing software performance and scalability.
- Designed and developed test harnesses that stressed terminal server/IIS web server/SQL server applications in conjunction and isolation.
- Responsible for analysing performance data, making recommendations, and producing summary reports/white-papers for non-technical staff.
- Led the performance team prior to leaving for further university study.

PUBLICATIONS

2016 “Why are pulsars so hard to find?”, University of Manchester.

2016 “Fifty Years of Pulsar Candidate Selection: From simple filters to a new principled real-time classification approach”, MNRAS.

2014 “Hellinger Distance Trees for Imbalanced Data Streams”, ICPR.

2013 “Classification in Imbalanced and Partially-Labelled Data Streams”, SMC.

AWARDS

2011 Best Presentation, University of Liverpool.

2008 Best Final Year Software Project, University of Liverpool.

2007 Deloitte Award for Best Group Project, University of Liverpool.