

# David Ralph

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## Personal Statement

I am a hardworking, self-motivated, fast learner, with a keen interest in cognitive computing and data science. I plan extensively and focus on identifying the most strategic and efficient solutions, giving thought to the larger implications of design decisions.

I seek high quality, practical solutions and am dedicated to my work, finding enjoyment in creative problem solving and overcoming challenges. I have good linguistic skills and can communicate complex ideas clearly and concisely, including to non-technical people.

It is always my primary aim to become more practiced and knowledgeable in the field of computing and to make meaningful contributions wherever possible and hold to great personal importance my ability to contribute to projects individually or as part of a team.

## Education

University of Portsmouth (2013 – To Date)

MEng Computer Science (Integrated Masters) – Predicted 1<sup>st</sup>

Key modules:

- Software engineering
- Parallel programming
- Web script programming
- Functional programming
- Databases
- Computer graphics and vision
- Neural networks & genetic algorithms
- Computer Architecture
- Operating systems
- Networks

Dissertation project

### Augmented Reality Asbestos Surveying

- Worked with Hampshire Scientific Services on a real-world project to create an augmented reality mobile app for viewing and recording of asbestos sources.
- Developed for Android using the Wikitude Augmented Reality SDK.
- Presented at university's student conference March 2016.
- Further development is now being taken forward by new students, building upon the app produced during the project.

Group industrial project

### Personal safety assistant for Connected Cars

- Currently working with IBM and four other students to produce an after-market system for driver safety and accident prevention in connected cars, leveraging IBM Watson cognitive services and state-of-the-art computer vision and machine learning technologies.
- The first episode of the podcast for the project can be found here:  
<https://www.linkedin.com/hp/update/6212505978789720064>

Brockenhurst College (2010 – 2013)

A levels: Computing, Mathematics, Physics  
AS Electronics

Arnewood School (2006 – 2010)

6 GCSEs A-C Including Mathematics & English

## Employment

### Full-Stack Web Developer at KnowNow Information (July 2016 – To Date)

Developed a client project with KnowNow Information, working alongside another student 30 hours/week through the summer of 2016 and 1 day/week November – To Date.

Primarily responsible for creating the main RESTful API, database, web scraper, and admin user interface, as well as design and planning. I also performed some extensions to the main user interface (using Google Polymer), and regularly liaised with the client.

Elements of the API and web scraper utilise IBM Watson cognitive services andAlchemy API hosted on IBM Bluemix, for which I also managed the environment and service setup and deployment.

More information about the project can be found here: <http://www.kn-i.com/blog/students/>

## Skills

|                             |   |
|-----------------------------|---|
| Object Oriented Programming | Java, Python, Visual Basic, C++   |
| Functional Programming      | Haskell   |
| Web programming             | <b>Semantic HTML5, CSS3, PHP, Java EE, JavaScript, Node.JS, Express, RESTful APIs, Mocha (unit testing)</b>                                   |
| Databases                   | Relational databases, normalisation, MySQL, <b>MongoDB, Mongoose</b> , GridFS   |
| Misc.                       | <b>Version Control (Git), Issue Tracking (GitHub)</b> , Electronics, Concurrent & Parallel Programming, <b>Data Mining</b> , Machine Learning |

\* **Bold** indicates workplace experience

## Experience

### VP Tech for University of Portsmouth IT Society (2015 – 2017)

- Organised, produced teaching materials for, and ran student workshops on:
  - Web technologies (HTML5, CSS, JavaScript) & Version control (Git)
  - Python Game Development
- Provided 1-to-1 support to students regarding programming, version control (Git), maths, and logic.
- Arranged talks and extra-curricular lectures from university staff and industry guests.

### Community events & competitions

- Participated in the ACM UKIEPC Programming Contest 2014 & 2015**  
Institution: University of Portsmouth      Teams: UP4IT (2014), MGDR (2015)
- Participated in Cyber Security Challenge UK 2016**  
Institution: University of Portsmouth      Team: DropTableUsers
- Won 'Best use of technology' at Pub Hack Portsmouth 2016** Team: lysfibe
- Regular attendee of PHP Hampshire and Hack Pompey

## Projects

Demos of many of my academic and side projects can be found at <http://davidralph.ddns.net>.

The full source code for these can be found on public repositories at <https://github.com/DavidRalph>

## Interests

I have been practising traditional archery for four years. This has helped me appreciate the need for constant practise and perseverance in order to train skills and boosted my focus, patience and concentration.

I enjoy reading and like to keep up with various topics in other sciences, I have a particular interest in particle physics, quantum mechanics, cosmology and astronomy, as well as a general interest in ancient and classical history. I am also an avid fan of both classic and modern science-fiction novels.

References available on request.