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 – 2017)

MEng Computer Science with Distinction

Key modules:

- Neural Networks & Genetic Algorithms
- Networks & Distributed Systems
- Computer Graphics and Vision
- Parallel Programming
- Databases
- Web Programming
- Functional Programming
- Software Engineering
- Computer Architecture
- Operating systems

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 Assistant for Connected Cars

- Worked with IBM and four other students to produce an after-market system for driver assistance 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: 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 Developer at KnowNow Information (July 2016 – To Date)

Developed a client project with KnowNow Information, working alongside another student full time (part time during academic term) from July 2016 – August 2017.

Responsible for creating the RESTful API services, database, web scraper and data analysis tools, and admin user interface, as well as design, planning, and testing of all areas of the project. Additionally, made major extensions to the main user interface (using Google Polymer), and regularly liaised with the client.

Elements of the API and web scraper utilise Open Data, Linked Data, and IBM Watson Cognitive Services. The project is hosted on the IBM Bluemix platform for which I managed environment and service setup.

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

Skills

Object Oriented Programming	Java, Python, Visual Basic, C++
Functional Programming	Haskell, **JavaScript (ES6)**
Web programming	**Semantic HTML5**, **CSS3**, **JavaScript**, **Node.JS**, **Express**, **RESTful APIs**, **Mocha (unit testing)**, PHP, Java EE
Databases	Relational databases, normalisation, MySQL, **Document databases, MongoDB**, **Mongoose**, GridFS
Misc.	**Data Mining**, Machine Learning, Concurrent & Parallel Programming **Version Control (Git)**, **Issue Tracking (GitHub)**, Electronics

*** Bold** indicates workplace experience

Other 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.

Events & Competitions	Team	Award
NASA Space Apps 2017 – IBM Hursley	Les Fibe	Winning Team (Regional)
Pub Hack Portsmouth 2016	Les Fibe	Best use of technology
Cyber Security Challenge UK 2016	DropTableUsers	
ACM UKIEPC Programming Contest 2014 & 2015	UP4IT (2014) MGDR (2015)	
Google Hash Code 2017		
Hack Pompy 4, 5, 6, & 7		

Projects

Demos of many of my academic and side projects can be found at davidralph.github.io/portfolio
The full source code for these can be found on public repositories at 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.