

Alexander D Brown

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I am an IEEE published author studying Software Engineering at Masters-level with an enthusiasm for teaching.

In previous workplaces I have often been praised for my enthusiasm and can-do attitude; often demonstrating I was able to work well independently, as well as with a wide range of people; from school children to senior members of management.

Education

Aberystwyth University

Master of Engineering (MEng) Software Engineering

Aberystwyth

2009 - 2014

Awarded the Portaltech Reply Bursary in Computer Science for best performance in the penultimate year of the MEng scheme.

Currently achieving a mark of a first/high 2:1 after four years of study, including a single year of industry at IBM Hursley.

Produced a highly marked (78%) third year project entitled “Kyffin Williams: Digital Analysis of Paintings”, which also resulted in a paper for the **8th International Symposium on Image and Signal Process and Analysis (ISPA)** entitled “Can we date an artists work from catalogue photographs?”

This paper was later presented at the conference in Trieste on 3rd September, 2013 and was co-authored with the project supervisor, Hannah Dee; a PhD student at the Aberystwyth School of Art, Gareth Lloyd Roderick; and a Professor of Digital Humanities at the National Library of Wales, Lorna M. Hughes.

This third year project was also presented twice at the British Computer Society (BCs) Show and Tell event twice at Aberystwyth University, gaining good feedback from members of the audience including members of staff in the Computer Science department.

Produced and presented on the topic of industrial years and improving social media presence at a careers weekend run by the department to small groups of second year students intending to take industrial years themselves in November 2013, 2012 and 2011.

Volunteered as part of the Technocamps project at the university, teaching school children aged 11-15 year basic electronics and programming for them to be able to build semi-automated robots.

Have produced a number of programs relating to a range of subjects including; a genetic algorithm to solve the travelling salesman problem in Python, developing clients for RESTful services in Ruby and solving Sudoku puzzles in Java.

Have researched into several subjects including genetic algorithms, image processing filters; specifically Gabor filters, the domain name system and agile methodologies.

Work Experience

Aberystwyth University

Advisor

Department of Computer Science

September 2013 - Present

Responsible for running a drop-in service to help students with understanding course material or extra-curricular projects. Problems range from debugging to software installation to theoretical understanding of computer science.

Organised and taught half of a two day course to introduce first year students to basic programming concepts including simple data structures common to most programming languages and flows of control. Responsible for the sign-off of assessed worksheets in the practical sessions for the “Introduction to Computer Operating Systems, Hardware and UNIX Tools” and “Concepts in Programming” first year modules. The first of the modules focused on the use of the UNIX command-line environment and the second of these modules taught development of basic Java and Haskell applications.

IBM

CICS Level 3 Service Tooling Engineer

IBM Hursley

June 2012 - July 2013

Responsible for designing and developing useful Java-based tools for the CICS Level 3 Service team, including an eclipse plug-in to print out information required for code reviews and a large system to automate the delivery of fix patches for CICS Eclipse-based products, which hooked into many internal systems.

Helped gather requirements to apply to a system designed to be used by all Level 3 Service teams so that the CICS team would not be disrupted in their work and attended meeting to discuss the development of this system.

Maintained and improved several systems for generating statistics for problem reports and the processes for fixing these problems, including a Java Enterprise server and DB2 database hosted on a CentOS Enterprise Linux server.

Lead a team of three IBM employees to run a Java-master at Swanmore School of Technology, to get school children aged 13-15 years introduced to programming in the Java programming language at a basic level.

Helped teach several Java sessions internally within IBM to help members of the Level 3 CICS Service team and Industrial Trainees gain the skills and knowledge needed to use Java in their jobs. Mentored by an ex-lecturer from the University of Southampton to help decide the content of these sessions and the teaching style involved.

Organised the inductions for the 2012-13 intake of Industrial Trainees for their first two days at IBM, requiring the networking with both managers of each trainee to ensure they had the equipment and logins for their roles, as well as members of upper-management to present introductory talks at each of the three inductions. This was done as part of a team of three, with the help of industrial trainee and graduate managers.

Designed, built and tested a game based on the travelling salesman problem for school children to play on the Blue Fusion event, run over national science week. Worked as part of a team of five using Java with the AWT graphical library.

This game was also used as the event’s finale, in which the AI agents the players produced were pitted against one another to determine which team had the best algorithm.

Aberystwyth University

Part Time Teacher/Demonstrator

Department of Computer Science

September 2011 - May 2012

Responsible for the sign-off of assessed worksheets in the practical sessions for the “Introduction to Computer Operating Systems, Hardware and UNIX Tools” and “Software Development” first year

modules. The first of the modules focused on the use of the UNIX command-line environment and the second of these modules taught development of Java applications, particularly GUI-based applications using the swing libraries and multi-threaded programming paradigms.

In the December 2011 Staff Student Committee Meeting I was praised as an “excellent” demonstrator. Contributed to the peer observation of teaching for demonstrators, giving feedback on how to improve the teaching methods of demonstrators and to improve the process of the demonstration of practical sessions.

Volunteering

Technocamps

Support Staff

Technocamps Aberystwyth

October 2012 - December 2012

Adur Canoe Club

Webmaster

September 2009 - August 2010

Adur Canoe Club

Instructor

September 2009 - August 2010

Programming Experience

Java

Developed a simple program to simulate the flocking behaviour of birds and to show this behaviour graphically using the AWT graphical libraries.

(<https://github.com/SoftlySplinter/Flocking-Simulator>)

Have programmed using the OSGi framework to develop highly-modular Java programs to deal with potentially volatile external API calls.

Have also developed Eclipse plug-ins, again using the OSGi framework, to improve workflow of the CICS Level 3 Service team.

Maintained and improved a Java EE application to automate the gathering of statistics running on a IBM Websphere Server and using Java Beans to connect to a IBM DB2 database.

Python

Developed an open source python implementation of the tent (<https://tent.io/>) protocol using the Flask microframework, with automated testing through Travis. The main focus was on the REST API for the server to meet the specification. (<http://pytent.github.io/pytentd/>)

Shell Scripting

Created scripts to automate the initialisation of testing environments as well as debugging and modifying existing scripts to perform the correct steps for initialisation.

Developed a script to automatically pull markdown notes for a specific module into a git repository. (<https://github.com/SoftlySplinter/notes/blob/develop/get-ginkgo.sh>)

JavaScript and Node.js

Ruby

C

Built an interpreter for an esoteric programming language based on the dwarf fortress game using the standard GCC libraries. This also included looking into character encoding (particularly in ASCII and UTF-8). (<https://github.com/SoftlySplinter/c-armok>)

Server Administration

Debian Server

Debian 6.0.7

<http://alexanderdbrown.com/>

2011 - present

Administered a personal VPS running a variety of services, including Nginx to serving static content as well as PHP using PHP-FPM (FastCGI Process Manager) and a WSGI implementation for testing pytentd on a real web-server.

CentOS Server

IBM CICS L3 Service Statistics Server

2012 - 2013

Ubuntu-based Server

IBM CICS L3 Service Sandbox

2013

Skills and Experience

Teaching

Qualified British Canoe Union (BCU) Level 2 Kayaking Instructor. Ran a number of sessions as the duty instructor for Adur Canoe Club, as well as supporting other instructors as part of their duty sessions, involving teaching kayakers of a wide range of ages and skill levels the skills required to improve their paddling.

Communication and Presentation

Attended presentation workshops in the business centre of IBM Hursley to improve presentation skills with the aid of professional presenters.

Presented a range of topics to several audiences including the findings of a paper at a conference, the teaching of computer science and kayaking techniques and the application image processing techniques at the BSc Show and Tell.

Announced and moderated talks at the Free and Open Source Developers Meet (FOSDEM) in Brussels, Belgium in 2011.

Computing

Good knowledge of the Java programming language (versions 1.6 and 1.7) having attended sessions to become certified in Java 7 and produced many Java projects, including a large scale system which hooked into several other systems using varying APIs, a simulation of flocking behaviour and a game to teach children mathematical and technological concepts by programming an agent to visit locations in the shortest distance.

Good knowledge of the UNIX/Linux command-line, having demonstrated the topic and having managed several servers both personal and within IBM.