

# **ALLAN MARK BRUCE**

## **PERSONAL**

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D.O.B.: 13<sup>th</sup> May 1978

## **ACADEMIC QUALIFICATIONS**

### **University of Aberdeen (Sep 1996 – Jun 2002)**

Masters of Engineering (**MEng**) in Electronic/Computing Engineering, involving courses in:

Software Engineering, VHDL and hardware design, Computer engineering, Digital communications, Network administration, Embedded C programming, Microprocessor design, MATLAB programming, Artificial Intelligence, Logic design and optimisation, Mathematical optimisation & Project Management.

### **Elgin Academy (Aug 1990 – May 1996)**

CSYS Exams: AAB Higher Exams: AAAC

## **CAREER HISTORY**

**May 2003 – Present:** PhD in Artificial Intelligence, Computing Science.  
(Awaiting submission of thesis)

My work has involved researching Qualitative Reasoning, an area of artificial intelligence, and how to bridge the gap between it and numerical techniques. Research was also undertaken to increase the efficiency of algorithms by implementing parallelisation.

**Oct 2001 – Dec 2005:** Tutorial Demonstrator at University of Aberdeen  
Reason for Leaving: End of Term-time.

In this position, I was responsible for demonstrating tutorials and labs for students in all years studying engineering and computing science.

**Jun 2001 - Sep 2001:** Research Assistant for Electronics Research Group  
Reason for Leaving: Completed Project Assigned.

For the project, I had to research areas of the TCP Protocol and its use in the communication between host and server using the HTTP/1.1 Web Protocol. I entered into a study environment which has allowed me to see how a Research team works. During the course of the project I had to give small oral presentations and also submit a report of my work.

**Jun 2000 - May 2001:** The Link (part of Dixons Store Groups)  
Reason for Leaving: Reduce hours to concentrate on final year of University.  
In this position I was responsible for passing on knowledge about a wide range of products and services offered by The Link. I was given a lot of responsibility as I was left alone in charge of the shop floor quite frequently.

**Jun 1998 - May 2000:** Cycling World  
Reason for Leaving: Better opportunities.

In Cycling World I was a bike mechanic. I had to be able to work under pressure and still produce cycles that were safe and reliable for sale to the public. I had to have an extensive knowledge of cycles and also procedures for repairs and customer orders.

**May 1994 - May 1998:** A. Junner & Co. Ltd.

Reason for Leaving: Was at University and was having to travel back to Elgin for weekend work. My first job was in the cycle department of a local shop. I was trained as a sales assistant and had to work with money and the tills. After some time I was also trained to become a bike mechanic and was shown how to keep stock levels correct and how to make orders from companies. I was often left alone on the shop floor so was given a lot of trust and responsibility.

## **INTERESTS**

In my spare time, I am keen racquet-sports player, including tennis, squash and badminton. I frequently go hill walking and have been responsible for organising several walks for myself and other people who are less experienced. I am hoping to climb all of the Munros in Scotland. I am very good with computers and I often build and repair them for family and friends, and also maintain a server at home for a small LAN. I was hired to install a network of computers in a Hotel in Dunoon. My interest in computers allows me to enjoy programming in C, C++, Java and OpenGL, and also creating web-pages. Other activities in which I embark are mountain biking, running and watching films.

## **OTHER ACHIEVEMENTS**

I was postgraduate representative for a year whilst studying for my PhD.

I develop software in my spare time with a friend. We have created a game programmed in OpenGL, an instant messenger service, and several other small projects.

I have tutored some secondary school pupils to help them pass their higher maths exam. 2 particular candidates achieved less than 20% in their preliminary exams and I managed to help them achieve a B and a C. I have also helped several students pass exams for their Engineering Degrees.

I was chosen to be in a mathematics team to represent Elgin Academy in regional and national maths contests. I also organised, with the help of a friend and a teacher, a mini competition for Moray to select a team from each school to go on to compete in the regional contest in years when I was too old. Other maths achievements I have include 6 gold awards for Maths Competitions and a bronze medal for a Maths Olympiad.

I came first in my sports days in first and second year at secondary school. I have also been awarded several medals for playing cricket in a local club. I was selected to play for the school rugby team and went on to play for North of Scotland Under-15s.

## **ACADEMIC ACHIEVEMENTS**

I was awarded 'Best Student Presentation' award at an international conference (RASC2004)

## **PUBLICATIONS**

A. M. Bruce and G. M. Coghill, "Implementing Parallelisations in a Fuzzy Qualitative Reasoning Engine", *Proceedings of the 5th annual UK Workshop on Computational Intelligence, UKCI2005*, pp 36-43, London, UK, 2005

G. M. Coghill, A. M. Bruce, C. Wisley and H. Liu, "Integrating Fuzzy Qualitative Trigonometry with Fuzzy Qualitative Envisionment", *Proceedings of the 5th annual UK Workshop on Computational Intelligence, UKCI2005*, pp 97-104, London, UK, 2005

A. M. Bruce and G. M. Coghill, "Parallel Fuzzy Qualitative Reasoning", *Proceedings of the 19th International Workshop on Qualitative Reasoning, QR2005*, pp 110-116, Graz, Austria, 2005

A. M. Bruce and G. M. Coghill, "Implementing Parallelisations in a Qualitative Reasoning Engine", *Proceedings of the 5th International Conference on Recent Advances in Soft Computing, RASC2004*, pp 390-396, Nottingham, UK, 2004

## **Computer Related Skills**

**Technologies:** Databases, 3D rendering engines, games programming, servlets.

**Languages:** C, C++, Java, JavaScript, Assembler, Visual Basic, XML, HTML, SHTML, XHTML, CSS, PHP, SQL.

**APIs:** DirectX (DirectSound, DirectInput), OpenGL, Win32, COM, Java Threads, Google Maps.

**Protocols:** HTTP, TCP/IP, UDP/IP, Ethernet.

**Operating Systems:** Windows 9x/NT/2k/XP/2k3, UNIX (Sun Solaris), Linux (various distributions).

## **REFERENCES**

Referee1: George Coghill  
Position: PhD Supervisor  
Address: 225 Meston Building, University of Aberdeen  
Telephone: 01224 273829

Referee2: Tim Spracklen  
Position: Lecturer and supervisor  
Address: Fraser Noble Building, University of Aberdeen  
Telephone: 01224 272787

Referee3: Gorry Fairhurst  
Position: Employer for ERG Research Assistant  
Address: Fraser Noble Building, University of Aberdeen  
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