Curriculum Vitae

Adam Pell

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1 Personal Information

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2 Personal Profile

Started an early interest in software engineering with work experience at Topologika and a National Academy summer school at Imperial college, both utilising C++.

At university, studied optional modules in artificial intelligence, machine learning, cryptography and non-standard computation. Ran the Computer Recycling project in my first two years, developing bespoke software in C++. During my third and fourth years, did voluntary work for a large roleplaying website and the Darts society, developing in JavaScript and Python respectively. Entered the Samsung Bada Developer Challenge during my final year, reaching the finals in London for the mobile app developed.

Undertook an industrial placement year at BAE systems as part of my degree, developing software for autonomous platforms using C++, Java, Python and MATLAB. Took responsibility for the integration of a complex system across different working groups.

Worked self-employed during the final year of my degree, performing server maintenance roles on file, mail and database servers, as well as developing bespoke tools in Java.

Worked as part of a startup company in crowdsourced CCTV monitoring, doing web and software development in Python, Java and C++ with the Flask and Tomcat webservers. During this time, I also managed the team in the Cornwall office of the business.

Worked with Microtest, producing clinical software for GP practices based in C++, using communication between client applications and server-side APIs, SQL databases and webpages developed in PHP and JavaScript.

Worked with ETAS Ltd, working in C++ in multithreaded and performant environments, also using techniques such as lock-free programming for high-performance, multi-threaded applications. Considerable effort spent developing technical knowledge, in the automotive measurement and calibration domain, as well as more generally in software principles and C++ in particular.

3 Skills Summary

- Work well to deadlines
- Good teamwork skills
- Highly motivated and quick to learn

- Familiarity with large and small scale business environments
- Experience in a number of programming languages, especially C/C++, Java and Python
- Experience with web and database development (PHP, CSS, HTML, JavaScript, SQL)
- Experience with mobile app development (especially the Bada platform)
- Experience with server operation and maintenance
- Management experience in a small office

4 Education

4.1 University

University of York (2007-2012)

- MEng Computer Systems and Software Engineering (with a year in industry) (2:2)
- Industry year at BAE Systems
- Optional modules in Artificial Intelligence and Machine Learning, Adaptive and Learning Agents, Non-Standard Computation, Quantum Computation and Cryptography

4.2 A-Levels

Truro College (2005-2007)

Course	Grade
Maths	A
Physics	A
Further Maths	B
Chemistry	B
German (AS)	B
Critical Thinking (AS)	C

4.3 GCSEs

Richard Lander School (2000-2005)

- 9 GCSEs Grade C and higher
- Pass in Intermediate GNVQ ICT

5 Work Experience

5.1 Microtest Ltd

Software Developer *(October 2013 - present)*

My current post with Microtest involves software development under Windows and Linux using a variety of languages. The core product is built in C++ using the Qt library, split between a windows client and server-side APIs running in a linux environment. SQL is also necessary to communicate between the database, main application and APIs. I have recently also taken on development of the internal automated test platform used for testing the APIs.

I have also been responsible for the initial versions of a dynamic web configuration utility, as well as maintaining and enhancing a web-based data mapping interface for performing client data migrations. These were all developed using PHP and JavaScript, along with the jQuery library.

My final responsibility has been working as part of the migrations team, developing SQL to perform client data migrations, both between two Microtest systems as well as from other suppliers into the Microtest system.

5.2 Internet Eyes Ltd

Software Developer *(August 2012 - August 2013)*

During my post at Internet Eyes, I was responsible for maintaining and developing the existing web system while providing technical support to viewers and business clients. I also designed and developed a new sales interface for third parties, as well as working on software tools to aid in downloading FLV format video files from our media server and blurring identifiable features such as faces in the resulting videos. I was also responsible for managing the Cornwall office of the company.

The website development utilised JSP and JavaScript with jQuery for the front end web pages, with Java, Hibernate3 and a MySQL server for the backend code, persistence and storage. While using these technologies, I also started using the Comet processing method for AJAX to implement a chat system for viewers. I also utilised Java to JSON serialisation in implementing the new sales interface.

For the standalone software development, I largely used Python. For the analytics and graph generation, I used the Highcharts JavaScript library and the Flask webserver to provide web-based access to the charts. I also used the OpenCV graphics library alonside numpy to implement the video blurring tool.

5.3 Self-Employed

(August 2011 - Present)

During the last year of my degree, I was responsible for maintaining servers dealing with back-end EPOS systems as well as mail and file servers. I was also been responsible for installing and configuring till systems using the OpenBravo till software and developing bespoke applications that can communicate to these databases. This largely used Java for development, with Linux shell scripting for the server maintenance aspect.

5.4 Penryn College

ICT Technician *(July 2010 - September 2010)*

My responsibilities as a technician were to give support to the ICT team. This involved solving general problems with laptop and desktop computers, as well as configuring new machines for the network.

5.5 BAE Systems

Research Associate *(July 2009 - July 2010)*

I had a number of roles at BAE during my placement year. My initial work was involved in developing planning software for autonomous vehicles, although I moved on to projects involving diagnostics for unmanned craft for the majority of the placement. During the last half of my placement, I was responsible for ensuring the successful integration of components from a number of different working groups into a functional demonstration of capability, developing the communications channels and GUI front end for the system. This work was carried out largely in Python, with some C++ and Matlab components. I also worked on enhancing some existing diagnostics work as part of this project, working in Java and resulting in an internally published report on the work undertaken. Alongside the development tasks, I took on the responsibility of training students who joined for work experience placements, introducing them to the concepts involved in planning for autonomous vehicles.

5.6 Topologika

Work Experience student *(July 2004)*

My work experience placement involved learning both the technical and administrative aspects of small business. I was responsible for some software development, although the main aspect of work I undertook was market research to provide data to aid future design cycles.

5.7 Personal Projects

As well as my industrial experience, I have pursued a number of projects in my own time, largely using Python due to my familiarity with the language and the speed of development. My three most recent projects are a continuation of a project from the final year of my degree in producing an agent capable of exploring an environment and inferring information about items found in the world, a collections database and an IRC chatbot. These projects are all undertaken on a personal Linux server accessed and managed remotely via the Linux command line.

The former project uses the ncurses library to provide a console-based display of the environment as the agent understands it. It also utilises a number of elements I developed for past projects, including my own ConfigReader class. I also developed a Decision Tree system for the learning aspect of the agent.

The latter project currently has two versions as I deprecate the original. The first version uses the MegaHal library to provide responses and the irclib library to handle server connections. I have since moved to using the twisted networking library and am developing my own chat system using the Natural Language Toolkit, nltk. For both versions, I have also been experimenting with the Python import system to create a dynamic module load/unload/reload facility to aid administration from within an IRC channel.

The collections database is using the ElasticSearch NoSQL system to store information about the items of a collection, the relaxed nature of the system allowing multiple different types of item to be stored in a single category, and items without matches for a query are quietly omitted from the results. The intended use will be to display results in a web interface, also allowing the system to handle trade requests between users based on a desired and currently owned count.