

Brice Fernandes

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Languages	English, French (Native proficiency) Spanish, Portuguese (Basic reading comprehension)	
Education	THE UNIVERSITY OF SHEFFIELD BSc. (2.1 Hons.) Physics with Computer Science	2006 - 2010
Technical Skills	<p>PROGRAMMING: Python, Jython, Java (OpenGL in Processing, GUI, Servlets), Shell scripting (Bash), DVCS (Git, Mercurial), C, C++, VCS (SVN, CVS), Unit Testing, Regular Expressions, Test Driven Development, Clojure, RDF, Agile Methodologies (Scrum, Pair Programming)</p> <p>TOOLKITS: Natural language processing with NLTK, WxWidgets (Python), Numpy and Matplotlib (MATLAB equivalent), Glib, GTK</p> <p>ADMINISTRATION: Unix (GNU/Linux) administration, Apache Server administration. Capable of deploying and maintaining full LAMP/WAMP stack, Virtualisation experience with VirtualBox, Windows maintenance.</p> <p>APPLICATIONS: Common productivity packages on Windows and Linux, \TeX, \LaTeX, and \BibTeX, Vim, Eclipse, 2D/3D CAD/Drafting (Solid Edge)</p> <p>OTHER: Analog and digital electronics: Basic filters, Digital Logic. XHTML and CSS.</p>	
Current Employment	Junior Software Engineer Working at Cambridge Broadband Ltd. on mostly Linux-based software to support microwave backhaul solutions. Working on wide range of software, from cross platform graphical user applications to embedded C network management using SNMP. KEYWORDS: <i>C, PPC, Embedded, Python, Linux, GTK, SNMP</i>	March 2011 - present
Ongoing Projects	Project MagicSphere Networked Persistence of Vision display targeted at advertising sector. Project currently in conceptual phase, to enter prototyping phase in late 2011/2012. KEYWORDS: <i>Microcontroller, Python, Embedded Linux, Hardware design & Manufacture</i>	January 2011 - present
Relevant Experience	Internship at the University of Reading Crafted a Flow Based Programming Framework to support an anomaly detection subsystem for the Intelligent Systems Research Laboratory at the University of Reading. Embedded Jython, Groovy, Beanshell in the Java Flow Based Programming Framework. KEYWORDS: <i>Java, Groovy, Jython, Flow Based Programming, Embedded languages, Distributed computing, Anomaly detection</i>	Summer 2010
	Agent Based Simulation of Social Insects Created a simulation of ant pheromone deposition using an existing agent modelling framework. Extensively modified existing modelling algorithm from polynomial complexity to linear complexity, leading to performance gains greater than 60%. Also	March 2010 - June 2010

created a new simulation visualiser using the Python Imaging library, and extensively debugged existing java visualiser.

KEYWORDS: *C, Agent based modelling, Python, PIL, FLAME*

An Introduction to Electronics

January 2010 - June 2010

Designed and built an online course for learning electronics. Covers basic electronic principles, analog filters, analog to digital and digital to analog conversion in a practical and educational style.

KEYWORDS: *Analog electronics, Digital logic, DAC, ADC, Mercurial*

Term Recognition in Engineering Documents

Summer 2009

I Worked as part of the OAK group at the University of Sheffield building a term recognition system for engineering documents. I developed a semantic extraction component in Java using the NLTK library accessed in Jython. Also designed a domain ontology for aerospace engineering.

KEYWORDS: *Java, Jython, Java Servlet, XML, RDF, Tomcat, NLTK*

LEDCube development

January 2009 - May 2009

Developed a full open source multithreaded application stack for custom hardware in a small team. Open GL frontend written in Java communicating to microcontroller programmed in AVR C over custom serial protocol. Used low level microcontroller interrupts to drive a three dimensional LED matrix driven by custom digital logic. I also manually optimised the Java implementation of the communication protocol from 900ms+ transmission latency to 112ms.

KEYWORDS: *Java, AVR, C, Microcontroller, Multithreading, State Machine Protocols*

Engineering Education Scheme

2004 -2005

Worked in collaboration with Yorkshire Water to solve grit damage problem in sludge treatment plans. Designed and prototyped a solution as part of a team that became Young Engineers for Britain regional finalists. Earned BA Crest Gold Award.

KEYWORDS: *Problem Solving, Teamwork, Drafting*

Trainee CAD Engineer, AESSEAL head office

Summer 2004

Worked as trainee CAD engineer for international engineering company designing and modifying mechanical seals and 3D assets for corporate literature and website using 3D drafting software.

KEYWORDS: *Drafting, 3D CAD, 2D CAD, Solid Edge*

Awards

BA Crest Gold Award

Young engineers for Britain Regional Finalists 2005

References

Available upon Request