Brice Fernandes

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

GCE - Tapton Sixth Form 2004 - 2006
- English (A), Chemistry(A), Physics(A), Mathematics(B) and General Studies(A).

GCSE - Tapton Secondary School 1999 - 2004
- Grade A*: 7 (Including all Sciences and Math); Grade A: 4, Grade B: 1

Technical Skills

Programming: Python, Java (Including OpenGL in Processing), Shell scripting (Bash), C, DVCS (Git, Mercurial), VCS (SVN, CVS), Unit Testing, Regular Expressions, Test Driven Development, Clojure, RDF, Agile Methodologies (Scrum, Pair Programming)

Toolkits: Natural language processing with NLTK, WxWidgets (Python), Numpy and Matplotlib (Python), Glib (C)

Administration: Linux administration, Apache Server administration. Capable of deploying and maintaining full LAMP/WAMP stack, Virtualisation experience with VirtualBox, Windows maintenance.

Applications: Common productivity packages on Windows and Linux, TEX, LATEX, and BibTEX, Vim, Eclipse, 2D/3D CAD/Drafting (Solid Edge)

Current Employment

Junior Software Engineer March 2011 - present
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: *C, Python, Linux, GTK, SNMP*

Ongoing Projects

Project MagicSphere January 2011 - present
Networked Persistence of Vision display targeted at advertising sector. Project currently in conceptual phase, to enter prototyping phase in late 2011/2012.
Keywords: *Microcontroller, Python, Embedded Linux, Hardware design & Manufacture*

Relevent Experience

Internship at the University of Reading Summer 2010
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: *Java, Groovy, Jython, Flow Based Programming, Embedded languages, Distributed computing, Anomaly detection*

Agent Based Simulation of Social Insects March 2010 - June 2010
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 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 imlpementation 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 Egde*

Awards
BA Crest Gold Award
Young engineers for Britain Regional Finalists 2005

References
Available upon Request