ANDRE BODODEA

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EDUCATION

University of Edinburgh 2013 - Present
Electronics and Software Engineering, BEng with Honours *Expecting a 2:1*

- Developed skills in object oriented design, computer architecture, analogue and digital circuit design, operating systems, and network management through various courseworks and independent projects.
- Successfully completed the most challenging courses such as Compiling Techniques, Computer Design, Computer Architecture, Digital System Design courses, Analogue Circuit courses, Signal and Communication System courses, Biosensors, Bioelectronics, etc.
- Having used Scientific Linux (DICE) for 4 years in University as well as various flavours of Linux for my personal computing and projects, have become very comfortable with Linux as well as gained good understanding of the workings of operating systems.

Lowell High School, San Francisco, USA 2008 - 2013

- Graduated with a grade point average of 3.6/4.0 (90%) from a top-50 public school in the USA.
- Achieved an SAT score of 2100/2400 prior to graduating.
- Founding member of the high school's first robotics team and head of the electronics subteam, advanced to the California Regional round of the FRC competition where we won the Chairman's Award

EXPERIENCE

Optimisation of Gaussian Process Regressions For Mobile GPUs Fall 2016 - Spring 2017
Dissertation

- Developed a parallel implementation of Gaussian Process regression (a predictive learning technique) using C++ and OpenCL designed and optimised specifically for the ARM Mali GPU.
- Implemented memory and caching optimisations designed to improve performance of parallel execution time

Indoor Positioning System Android App Fall 2016 - Spring 2017
University Project

- Developed an Android application that uses WiFi RSSI scans along with modified nearest neighbour algorithms to track a user on a visual floor-plan as he/she moves through any indoor space (where GPS is ineffective).
- Uses a persistent SQL database to create an application that learns to track the user better as he/she uses the application more in any given building

C Compiler Fall 2016 - Winter 2016
University Project

- Built a basic C compiler (including system calls, pointers, and structs) from scratch using Java.
- Includes all separate stages of compiling: Lexing, Parsing, Semantic and Type checking, and finally Assembly instruction generation.
- Obtained a much deeper understanding of how languages work under the hood, allowing for better reasoning about the programs runtime and possible optimizations.

Computer Science Large Practical Fall 2015 - Winter 2015
University Project

- Built a program in C to execute stochastic simulations of an on-demand public transport system
- Aim was to aid city planners in understanding how bus networks can best be optimised by tweaking certain parameters

Digital System Design/Computer Design Fall 2015 - Summer 2016
University Project

- Used Verilog HDL to program various Xilinx FPGA devices for a range of applications.
- Familiar with concepts such as synchronous and asynchronous combinatorial logic, generics, linked state machines using ROM, SPI and VGA standards, memory interfacing, pipeline registers, etc

Analogue-to-Digital Converter PCB for Speech Recording and Playback Fall 2015 - Spring 2016
University Project

- Designed a system to record speech to on-board RAM and then play it back through a line-out.
- Tested the circuit using SPICE simulation and sent plans to be machined to PCB by a third party, finally soldering all components for a production-ready prototype.
- Gained experience building various common circuits for the project such as digital-to-audio converter, audio amplifier, anti-aliasing filter, and automatic gain-control circuits.

Resident Assistant Fall 2014 - Summer 2015
University of Edinburgh

- Personally responsible for managing a housing block of 40 students, duties included emergency first responder and security team coordination.
- Worked in a small team across multiple sites to more effectively organise security teams as well as plan extra student networking and academic events.
- Received the Edinburgh Award for notable contributions to the student community.

Wireless Temperature Measurement System Spring 2014 - Summer 2014
University Project

- Designed system for a temperature transmitter/receiver system using D-type flip flops, op-amps, and RC charge-dischage circuits along with a variety of common integrated circuits.
- The transmitter side included temperature measurement circuit, voltage-to-frequency converter, modulator to prepare signal for transmission, and finally a transmitter using infrared LEDs.
- Gained a good understanding of circuit design techniques, as well as an ability to use analogue design concepts in a practical application.

LANGUAGES AND TECHNOLOGIES

- **Languages:** Java, C, C++, Python (some Flask), Verilog, OpenCL, Matlab, Android, MIPS assembly, Bash, SQL, Haskell.
- **Technologies:** Eclipse/Intellij/Android Studio, Vim, Linux, Target (PSPICE), Vivado, LaTeX, MS Office.
- **Electronics experience:** Analogue and digital circuit design experience, circuit simulation using PSPICE, PCB layout design, electronics lab experience (oscilloscopes, signal generators, etc).

HOBBIES

- Interest in economics and some aspects of finance especially cryptocurrency and blockchain tech.
- Interest in music production and composition. Awarded the opportunity to conduct a 7 piece ensemble from the Scottish Chamber Orchestra in a live concert performance of an experimental soundtrack I wrote to accompany a Norman McLaren short film.
- Active basketball and tennis fan. Advanced to first place in the doubles position for the San Francisco All-City Boys tournament in my final year of high school, allowing our school team to win first overall.