Jacob Josiah Webber

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Summary

Jacob spent his youth dividing his time between his interests in maths/physics and music. He achieved some distinction in both, including touring Europe as a featured soloist with a regional youth orchestra, and setting the record for highest "Junior Maths Challenge" score at his secondary school.

This led to a degree in Physics and Music at The University of Edinburgh. Here he was a stalwart of the University music scene, playing first violin with Edinburgh University's Chamber Orchestra, Symphony Orchestra and String Orchestra. Academically, he moved from studying physics and music separately to immersing himself in the world of audio DSP and physical modelling of acoustical systems.

While Jacob had always been interested in computing, running Linux and building his own machines from a young age, it was in pursuing this course of study that he got his first flavour of serious programming. This led to him getting a job as a Java developer. Jacob decided to add a layer of academic theoretical computational science rigour to the computing skills he had acquired in physics and at work, and enrolled in an MSc in High Performance Computing at The University of Edinburgh.

Professional Experience

Tesco Bank — Edinburgh, Scotland

Digital Development Graduate — *Sept '15 – Sept '16*

Tesco Bank is a young technology-centric financial services company. Responsibilities included managing and administrating Jenkins build servers on AWS for the development environment and developing Java code for the core banking system using Agile/Scrum methodologies with TDD and BDD. Technologies core to this role were Bash, Java, Spring, SQL, Mockito and Cucumber. Additional experience and training was gained in NodeJS, AngularJS and HTML.

Please refer to my LinkedIn profile for a more complete list of work experiences.

Education

The University of Edinburgh — Edinburgh, Scotland

High Performance Computing MSc — *2016 – 2017*

Studying at the department that runs the UK supercomputing service. Gained extensive experience with parallel programming, mainly using C, with CUDA, MPI and OpenMP. Additional courses in Automatic Speech Recognition, Music Informatics and Fortran.

Final Project: *Optimising Memory Efficiency for 3D FTDT Room Acoustics Models* • (*In Progress*).
Using a novel data structure and algorithm to improve the space efficiency and cache hit rate of a stencilling algorithm in CUDA.

Physics and Music BSc — *2011 – 2015*

Focused on Audio Digital Signal Processing and computation modelling of acoustic systems. Extensive additional coursework in music theory, physics and mathematics.

Final Project: *High Precision Parallel Graphic Equalizer* • **Grade:** *A*.
Utilised Matlab and advanced linear algebra and complex analysis techniques to implement an algorithm for a parallel bank of digital filters with audio applications.

The John Warner School — Hoddesdon, England

A Level Examinations

A levels in Mathematics, Physics and Music. • **Grades:** *AAB* respectively.

Skills

Technical expertise: Agile/Scrum with DevOps working environments • Automated deployment and continuous integration with Travis CI/Jenkins • **Academic:** C, CUDA C, OpenMP, MPI, Fortran, R and LaTeX • **Professional:** Java, Spring MVC, Mockito, Cucumber, Javascript (*Angular/JQuery/NodeJS*). Linux administration skills: Bash, AWS (*EC2 & S3*) and Ansible • **Hobbyist:** Lisp, Go.

Natural languages: English *(native speaker)*, French *(elementary proficiency)* and Arabic *(beginner)*.

Interests

Writing a lifestyle column for The Student Newspaper, playing the violin, studying foreign languages, keeping up with politics and current affairs and playing low quality football.