Benjamin Chalmers

Curriculum Vitae

Contact Details

Email	benj@minchalme.rs
Website	benja.minchalme.rs
Github	abaft
Tel.	07410 446293
Address	Benjamin Chalmers 19 Brettenham Crescent Ipswich Suffolk IP4 2UB

Education

BSc Computer Science
(University Of Leeds 2.1)

Year 1	Computer Architecture
2017-18	Discrete Maths
	Computer Processors
	Procedural Programming
	OOP
Year 2	Software Engineering
2018-19	Algorithms
	Networks
	Compiler Design
	Formal Languages
Year 3	Graphics
2019-20	Machine Learning
	Secure Computing
	Cryptograpy
	Graph Alogrithms
	Final Project

St Josephs Collage, Ipswich:

A Levels	**A**	Maths
2017	**A**	Further Maths
	B	Chemistry
	B	Physics
GCSEs	10 A*-B including:	
2015	A* Maths	
	A* English Literature	

Personal Profile

Enthusiastic and technically minded individual who enjoys a challenge and revels in solving problems. Hard working with a persistent desire to learn and understand.
I have, to date, gained experience in computing and electronics through a plethora of projects, hobbies, and work experience; in conjunction with my degree program.

Projects

Things I found fun

Processors In my high school years I built an 8 bit processor in 74 series logic. At university I discovered VeriLog/VHDL and FPGAs and realised that I could code my own logic components without having to deal with enormous numbers of chips. This was explored further in the processors module in my degree, in which I implemented the 'HACK' educational (nand2tetris) architecture on an FPGA as an extension to my coursework.

Radiotutor.uk My friend approached me to architect and write the software backend for an e-learning platform. I took the opportunity to familiarise myself with the web services provided by Amazon. Creating RESTful, and an event stream API; experimenting with NoSQL and graphQL database solutions. The software was maintainably written in GoLang, and C++; using git for the VCS. I also implemented automated testing and deployment.

High Altitude Balloons For the sake of pretty aerial photographs I decided to try and launch my own meteorological balloon. I developed an interrupt driven RTTY radio GPS tracker device using a tinyAVR microcontroller and a little radio transmitter. This taught me about hardware interfaces such as I^2C, UART and SPI; as well as elements of computer architecture (timers, addressing, and register). It tested my creativity, programming, and construction abilities. To work with a very limited microcontrollers, and create reliable, robust software.

Work Experience

BT - Summer 2018 I spent a month doing work experience with BTs research and innovation division in Martleshem. I was working on developing a demonstration of what CV2X could provide by building robotic cars communicating P2P and over a network. I built the cars and wrote some client server software to control them (In C and GoLang) using bluetooth for the P2P communication, and a 4G 'over the top' connection for communication with a control server which I wrote.
This taught me about office life, as well as the outstanding number of acronyms for everything and anything.

BT - Summer 2019 I returned to the research and innovation division at BT Martlesham to become a paid intern in the summer of 2019. During this time worked with a team researching tooling for software engineers at BT. My work was primarily to find a way for software engineers to better understand legacy code bases. To do this I created a tool (in C++) which would perform runtime hot code path analysis on programs running in the java verbal machine. This vastly increased my underlying understanding about how the JVM, and it's garbage collector, works. In this role I acquired skills querying a graphing database in graph QL (neo4j, using it to store profiling data), providing a powerful new way to think about databases beyond the relation databases taught in my degree.

Achievements

- Full amateur radio licence
- D of E Silver and Bronze
- Treasurer of CompSoc (School of Computing Society), Secretary & Captain of Rifle Soc (our university rifle club), and Social Secretary of the University Caving Club.
- Course rep in second year.

Technologies I'm comfortable with

- C/C++
- Golang
- Verilog
- LaTeX
- Git
- GNU/Linux
- Java
- AWS
- PHP, Perl, Lua, tcl, R, python, javascript

References available upon request