Alfie Richards

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Summary

Passionate second year university student studying computer science and mathematics at the University of Bath. Enthusiastic about language design, algorithm complexity and sharing computer science with others.
Looking for opportunities to learn and work in a professional environment and develop more skills.

Education

University of Bath, Bath *Computer science and mathematics, Predicted first class degree, 83.3%*
September 2019 to Current

Principles of Programming 1 and 2
Covered the basics of programming in C, Java, and Python, including OOP, complexity, and multi threading.

Computer Science as an Engineering Discipline
Covered system design principles, computer science ethics, and group organisation mythologies such as scrum.

Analysis 1 and 2
Introduction to Mathematical Analysis

Algebra 1 and 2
Introduction to group theory, linear algebra, and number theory

Integrated group-based project
Develops technical, management and team working skills necessary for the successful development of a multidisciplinary software project

Foundations of computation
Introduces formal models of computation and corresponding classes of formal languages

Data structures and algorithms
Builds understanding of algorithms and data structures and how to apply them to facilitate the empirical assessment of algorithmic differences

Databases
Aims to provide a systems-based understanding of data, data modelling, storage, access, retrieval and protection

Artificial Intelligence
A detailed introduction to formal artificial intelligence

Comparative programming languages
Introduction to a variety of programming languages with comparisons

Functional programming
Introduction to functional programming and how logical and semantic foundations are translated into usable languages.

Lord Williams School, Thame
September 2012 to July 2019

A Levels
A* in Further Mathematics, Mathematics, Physics and A in Chemistry

GCSEs
7 A/A* (or equivalent), including Mathematics and English
10 A* to C (or equivalent)

Employment

IS Sweetman Gun and Rifle Makers, London *- Website developer*
August 2019 to December 2019
Responsible for the website of a startup gun manufacturing firm built on Squarespace. Learned about communicating professionally in this role. https://www.gunmakinguk.com

Cosmetic Courses, Princes Risborough *- Marketing analyst*
August 2019 to September 2019
This is a medium sized company who are the market leader in delivering face to face and online training in the cosmetics industry. Helped develop their online marketing strategy by researching and testing campaigns. Made regular reports on the performance of the ads and the website using google analytics. Learnt about report presenting and communication with a management team.

Racketware, Towersey *- Developer*
July 2018 to September 2018
Racketware is a startup fitness device company, while there helped develop a sensor to record and give feedback on squash technique and games. Worked alongside the founder, writing, designing and testing an early version of an android app to communicate with and control the device. Worked closely with the CEO designing and bringing to market the product. Learned invaluable lessons about product development and gained experience working alongside a career developer and innovator. Has continued involvement in the company as a shareholder.

Rumsey's Chocolaterie, Thame *- Barista and junior chef*
February 2017 to June 2017
Rumsey's is a luxury cafe and chocolaterie. Worked as a barista and kitchen assistant part time in a team within a pressured environment and gained skills in customer service and communication.

Projects

PlayPower *- React, JavaScript, C#, .NET Core, ASP.NET, RESTful API, PostgreSQL*
Currently working with a small group of friends on a web app version of the board game power.
https://github.com/AlfGalf/Power

BCS Discord Bot *- C#, .NET Core, ASP.NET, PostgreSQL*
Working with flat mate made a bot to give roles and permissions on the Bath Computer Science server depending on their Society memberships.
https://github.com/jcryer/BCSSBot

Flash Card App *- Swift for iOS*
Over the 2020 Summer worked on a flashcard revision app to learn the iOS platform.

LED matrix display and other hobbyist projects *- Arduino project*
From years of tinkering with Arduino's and Raspberry Pi's created a handful of projects and learnt about hardware and Linux. Became familiar with C/C++ and Python.

Volunteering

BCSS committee *- University of Bath Student Union*
Current competition leader in the committee of the Bath Computer Science Society.

National Citizenship Service
Led a team of 9 who organised a charity dinner for over 60 people raising over £1000 for a local charity.

Event organiser and bar worker *- Community events*
Regularly worked in a team organising events in the local village such as a comedy festival (Towersey Fringe), multiple plays and charity events.

Senior student *- Lord Williams School*
Member of the elected team to represent the student body and to organise the prom and the yearbook among other projects. Led the yearbook team and have been awarded by the school for my contribution to the Sixth form.

Academic representative *- University of Bath*
In year one and two of university was a part of a team of 4 representing my peers to improve student welfare.

Activities/ Interests

Mathematics
Lifelong mathematics enthusiast. For the last 5 years attended lectures at the department for mathematics at Oxford and the Royal society. Represented Lord Williams School in national mathematics competitions and have competed in UKMT Mathematics challenge many times and the BMO.

Competitive computing and hackathons
Participated in and ran internal University of Bath competitions. Competed in larger competitions such as Google's Hashcode as well as in hackathons with groups friends and gained experience with a variety of platforms.

Industry aware
Closely follows industry news to keep up to date with current news.

Technical Skills

Version control
Uses Git proficiently for all digital work.

Command line tools
Uses UNIX command line tools

Mobile Development
Native apps in Swift/ UIKit on iOS and in Java on Android

Web front end
React, JavaScript, HTML, CSS

Web back end
.NET Core, ASP.NET, PostgreSQL

Data Analysis
Python and Processing

Awards

University of Bath
- Netcraft prize for outstanding results

Lord Williams School
- George Shrimpton Prize for Mathematics
- Parents Association award for Contribution to Sixth Form
- Warden Smith prize for academic excellence
- Prize for Overall Excellence in Results

UK Mathematics Trust
- Hamilton Olympiad - Distinction
- Cayley & Maclaurin Olympiad - Merit
- British Mathematical Olympiad round 1 - Distinction
- Senior/ Intermediate Mathematics challenge - Gold / Best in School 4 times

References

Paul Mellor, CEO, Racketware
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Jim Savin, Managing Director, Cosmetic Courses
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Russell Bradford, Senior Lecturer, University of Bath
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