

Melvin Abraham

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I am a 3rd year Applied Computing student looking for a summer internship opportunity. I am passionate about creating useful products that help someone's way of life or make software more intuitive and usable. My goals are to understand what creating software is like within an industrial environment and learning from those who lead as well as follow on what builds an effective environment for success. My career ambition is to work in the IT sector to solve problems and to implement software solutions.

Education

Applied Computing BSc (Hons) *Graduating in 2021*

University of Dundee (3rd year)

Modules Include:

- **Users and Interfaces UX/UI** - I used qualitative research methods (interviews/focus groups) to gather requirements and subsequently used this to design accessible and usable interfaces for underrepresented population groups.
- **Object Orientated Design and Development** - I created a full design specification for a game using OOP design principles and patterns in UML within the context of different methodologies such as Waterfall and Agile.
- **Multi Paradigm Programming** - I used C and C++ to create data structures from first principles such as Linked Lists, Queues and Hash Tables with emphasis on error checking and defensive programming.
- **Information Security** - I applied cryptography and security protocols to create secure programs that defends against attacks and vulnerabilities such as Injections and relay attacks.

High School (Highers) AAAB

St Augustine's RC High School, Edinburgh *Graduated 2017*

Key Skills

My main languages are **C++** and **Java**. I also have experience in:

- C# / C
- BASH
- HTML/CSS/CSS Frameworks
- SQL/MySql
- PHP
- UML/Prototyping
- Git

Notable Projects

- **Login System and Penetration Testing** – I worked as part of a software development team to create two login systems as part of module coursework. One system was secure with no vulnerabilities and one had a hidden obfuscated backdoor allowing entry into the system. I conducted penetration testing on other login systems from the class to find vulnerabilities that could be exploited.
- **Treatment Finder** – This project was created with a team of 6 using the Agile and Test Driven Development with three, one week sprints. I used Java, MySql and the Mapbox API to create a web app that checks prices of operations in america the user is looking for, querying the database to display back to the user clearly.

- **Object Orientated Design Specification** – I worked as part of a team to create a full design documentation for a video game based of Cluedo. I created Class Diagrams and Use Cases in UML and a comprehensive Threat model.

Other Computing Related Experience

President of Dundee University Computing Society (DUCS)

I lead a team of students that create social and technical events for the collective Dundee Computing Student body. I have increased membership of this society from 30 to 200+ members and have increased the number of activities that the society organises. My aim has been to create a positive and effective environment within my team, to run events that bring students and members of industry together. Events such as skills workshops with speakers from the university along with experts from industry. Social events working with local businesses around Dundee, Coding challenges with external tech companies and our own annual Hackathon. My role includes:

- Project Management
- Public Speaking
- Events Coordinating
- Long term planning
- Outreach

Student Member of the British Computing Society (BSC)

I have organised as well as collaborated multiple times with BCS in events that raise the awareness of STEM, especially with the goal of getting younger people interested in computing.

Strathmore Trophy Mentor

I guided 16 teams of 4 secondary school pupils to come up with accessible designs for those who struggle speaking. I advised on accessible design and helped refine in the ideas phase to come up with a realistic product to submit for judging .

Work Experience

Royal Air Force (Reserve): Officer Cadet with ESUAS

Sep 2017 - Present

I am responsible for maintenance and upkeep of communication channels for a squadron of 90 people. I have attended leadership courses which were applied in events planning and exercises to achieve mission goals. This has taught me determination, to think clearly under high pressure situations and contingency planning for when things do not go to plan.

University of Dundee: Student Ambassador

Jun 2018 - Present

This role requires me to lead people and manage visitors to make sure they get the best experience possible specifically tailored to them. This role has taught me how to put forward information to those who are little to no-knowledge on the topic. I did this by finding out what their goals were and trying my best to achieve their goals, along the way I would introduce topics the visitor didn't know they wanted by trying to look from a wider perspective on the situation- seeing the bigger picture.

Kumon: Maths and English Tutor

Jun 2015 - Oct 2019

I taught kids from Primary 1 just learning to count or read all the way to young adults sitting their SQA Higher exams. This role taught me how to empathise with others, viewing problems from someone else's perspective. The nature of the job requires patience and attention to detail, to see if the student understands the fundamental concepts so we can build off the basic ideas.