TABITHA GOLDMAN

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EDUCATION

Imperial College London

Undergraduate degree: MEng Joint Mathematics and Computing

Sep 2019 – Ongoing

Currently in second year of study. Modules include Calculus, Linear Algebra, Abstract Data Structures, Algorithms, Logic, Graphs and Programming. Achieved a 2:1 in first year.

King's College London Mathematics School

Sixth Form

Sep 2017 – Jul 2019

A-levels: A* A* A (Mathematics, Further Mathematics, Physics)
Other: Computer Science (AS) A, Step I 1

PROJECTS

PintOS

Implemented core features of a bare-bones operating system Grade: 81% (A*)

Oct 2020 - Nov 2020

- Implemented a BSD scheduler and priority donation for kernel threads
- Implemented loading and running user programs
- Analysed implementation in order to reflect on design choices in a written report

Music Generation Algorithm

Generated MIDI files locally similar to an input file using constraint solving
Grade: 85% (A*)

Jun 2020

- Implemented the Wave Function Collapse algorithm in C
- Applied algorithm to MIDI files
- Wrote a detailed report and presentation about the implementation

C Assembler and Emulator

Wrote an Assembler and Emulator in C for a subset of the ARM instruction set architecture Grade: 91% (A*)

Jun 2020

- Developed knowledge of Version Control through group work

Software Projects

Highlights of Haskell and Java projects include:

Oct 2019 - Apr 2020

- Haskell implementation of an L System (Achieved 90%)
- Java picture processing application (Achieved 80%)

Dyson Cafeteria: Queue Modelling Project

Wrote a report detailing recommendations for more efficient lunch queue systems for Dyson Grade: Distinction

Nov 2017 - Jun 2018

- Researched efficiency of different types of queues
- Modelled queues in Python using SimPy
- Presented findings in front of a large audience of students, teachers and industry professionals

ACHIEVEMENTS

Commendation medal in the 2018 Singapore International Mathematics Challenge (a mathematical modelling competition) representing the UK.

Olympiads:
Distinction in the 2018 UKMT Mathematics Olympiad for Girls. Competed in the 2019 UKMT British Mathematical Olympiad. Bronze (I) in the 2017 British Physics Olympiad.

1st in Mathsbombe 2019
National mathematical problem solving competition run by Manchester University

WORK EXPERIENCE AND INSIGHT

Curriculum X Teacher at KCLMS 2021
The first alumni to plan and deliver a super-curricular course at KCLMS. The course is focused on functional programming through exploration of the langugae Haskell. Also assisting in teaching a similar graph theory based course.

MAN Group 2019
Attended an insight day at the MAN Group London office. Received an overview of the work carried about by different teams, including a talk on the fundamentals of stock trading, and learnt about the career opportunities available.

London Underground 2018
Learnt about a variety of optimisation issues affecting Victoria Station and the Victoria Line and observed operations in the control room at Victoria.

XTX Markets 2018
Visited the XTX Markets London office and learnt about the work carried out by their quantitative researchers.

Headstart Summer School 2018
Took part in a Mathematics summer school at Lancaster University covering different areas of geometry such as rigidity, aperiodic tilings and fractals.

Youth Leadership 2015 - present
Completed youth movement leadership programmes. Developed and ran activities in weekly meetings and residential summer camps spanning three weeks.

SKILLS

Languages: Haskell, Python, Java, C, ASM, Kotlin

Software: LaTeX, Git

OTHER INTERESTS

Saxophone | Climbing | Concerts