Dylan Drescher

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Curious, logical, and hardworking second-year computer science student with a passion for programming currently studying at the University of Bath. Enjoying the theoretical content as well as the teamwork-oriented coursework.

Mainly using Python and Java, familiar with Kotlin and C and keen to learning more languages to expand my knowledge.

EDUCATION & QUALIFICATION

University of Bath - Computer Science BSc with a year work placement (2019 – 2023)

First Year Average Result: 72% (Predicted 1st)

- Computing as a science & engineering discipline: Learning about how projects and software are developed in the industry, going over agile production methods, ethics and more.
- Systems Architecture: Learning about how computer systems work, learning about components of processors, operating systems, and computer networking.
- Discrete mathematics: Introduction to mathematical logic and number systems.
- Principles of programming: Introduction to programming languages such as Java and C, and programming concepts such as object-orientation and application networking.
- Analytical mathematics: Introduction to linear algebra, vectors, and how they are applied to computer science.

Second Year units

- Foundations of computation: Introduction to computation, finite and other automata, languages, and regular expressions.
- Data structures and algorithms: Learning about the data structures and algorithms used in modern computing systems such as hash tables and data trees.
- Fundamentals of visual computing: Introduction to how images and colours are processed and rendered by the computer to a screen, involving linear algebra, MATLAB and WebGL.
- Databases: Learning about how databases are created and managed on computer systems, as well as having an introduction to SQL.
- Functional programming: Understanding the untyped and typed lambda calculus and the Haskell programming language.
- Fundamentals of machine learning: Introduction to machine learning processes such as regression and classing as well as using Python and NumPy to apply the knowledge.
- Artificial intelligence: Introduction to artificial intelligence concepts such as search algorithms, logical reasoning, and a brief introduction on machine learning.
- Comparative programming languages: An overview of programming languages, how they compare with one another and how they work.
- Human-computer interaction: Studying how humans interact with computers and systems, with concepts such as UI, user psychology and ethics in computing.

(2019) A-levels: Maths **A**, Computer Science **A**, Business Studies **B**

(2017) GCSEs: Maths: **8**. English **6**. 5 **A**s including Computer Science.

SKILLS

- Programming: Java, Python, C, C#, Kotlin, HTML/CSS, TypeScript, JavaScript, Haskell
- IDEs/Editors: JetBrains, Visual Studio, Android Studio, Vim
- OSes: Windows, Linux
- Tools: Bash, SQL, Git/GitHub, Microsoft Office

PROJECTS

- **Munch Manager**
  Munch Manager was developed as group coursework. It is an app that lets users track what food they have in their pantry, as well as suggesting recipes for them depending on their stored food. I was the main developer of the android frontend. Working on this android app gave me a chance to improve my programming and communication skills, while working as part of an effective team. While I did have prior experience with android development, Munch Manager was a larger app that taught me a lot more things such as HTTP networking between client and server. I used Git to manage a shared repository, which helped other members of the group collaborate with me.

- **Connect Four with AI**
  For my Computer Science A-level, I developed a Connect Four game within Python that allows a player to play against a bot that uses the Monte Carlo tree search algorithm to help make decisions within the game.

EXPERIENCE

- **Resident Tax** - Internship (August 2020)
  Spent time collaborating with two other interns, as well as the staff, to plan and develop an android app that would be integrated into the company's main app, using Kotlin. I was trained on Kotlin beforehand, and the app was developed in one month and was evolving and changing to fit with plan changes during that month.

- **Deutsche Bank -** Work Experience (June 2017, 2018)
  Talked with different people working in different departments of the bank to get a deeper understanding of the finance industry. Spent time on the trading floor and in investment banking as well as Asset and Wealth management.

- **Atom Republic** - Work Experience (July 2017)
  Assessed a game for bugs & provided feedback on the game.

ACTIVITIES AND INTERESTS

University of Bath

I am a member of the Bath Computer Science society, which gives me the opportunity to take part in hackathons that allow me to collaborate with students from different courses and hone my programming skills, for example, I developed a game with other students in 24 hours for a hackathon in Bath. Currently, I am a committee member at the university's Sci-Fi and Fantasy society as an IT Officer, managing the website and social media pages, developing web page creation skills and social media management skills.

St John the Baptist School

Throughout my time in secondary school, I was actively involved in the Computer Science department. I learnt Python before it was taught in class, and I assisted the department with Open Days to let prospective students experience what computer science is about. During A-level, I spent time tutoring a GCSE Computer Science student on programming to help him understand his work, which let me develop my communication skills and helped me to become a better teacher.

Interests

I mainly use Python and Java in my university and personal projects; however, I do dabble in other languages like C, C# and any other language that I need in order to start a project I am interested in. Additionally, I like to partake in competitive programming and hackathons to develop my skills. On the side, I like to work on games with Unity and Godot.

Other than software development, I like to pass the time by video editing, playing tabletop and computer games, studying Japanese and baking.

REFERENCES

- Dr Christian Richardt (Personal Tutor) – cr623@bath.ac.uk – +44 1225 383955
- Dr Ulrike Lungershausen – ulrike@resident.tax – +44 7806 543163
- Mr David Rusted (Secondary School Maths Tutor) – +44 7940 565718