

# Thomas Williams

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## Education

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**University of Bath** (Somerset, UK)

**BSc (Hons) Computer Science with professional placement**

(September 2024 - June 2028)

First Year Average Grade: **82% - First Class**

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|----------------------------------|-----------|
| • Programming 1 & 2              | 81% & 78% |
| • Artificial Intelligence        | 78%       |
| • Computer Systems Architectures | 85%       |
| • Discrete Maths and Databases   | 77%       |
| • Mathematics for Computation    | 95%       |

Relevant Skills: Functional Programming (Haskell), Object-Oriented Programming (Java), Introduction to Artificial Intelligence, Software Engineering, Agile, Scrum, Systems Architectures, Operating Systems, Relational Databases, NoSQL, Python, Test Driven Development, Cryptography, Linear Algebra, Calculus.

**Hampton School**

(September 2017 - June 2024)

A-Levels (2024): A\*A\*A\*A\* - Further Mathematics, Physics, Computer Science, Mathematics

GCSEs (2022): 11 Grade 9s (including Further Mathematics, Computer Science and Design Engineering)

## Technical Skills

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**Programming:** Python, Arduino/C++, Haskell, Java, JavaScript

**Web Development and Databases:** HTML, CSS, React, Flask, REST APIs, SQL, MongoDB, Supabase, GCP

**Software Development:** GitHub, Jira, Agile/Scrum, Confluence, CI/CD, Docker

**Data Science:** Pandas, NumPy, Selenium, Matplotlib, SciPy, MS Excel, Shiny

## Projects

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**Data Science - Redefining Dominance** - [Article](#)

(January 2025)

Produced research about NBA player Nikola Jokic, specifically analysing how his playing style has led to his dominance of the sport. Scraped, cleaned, and visualised data to support hypotheses, and leveraged machine learning algorithms to investigate the unique characteristics of his career.

Technologies: Python, Selenium, Pandas, Matplotlib, SciPy, Excel.

**Personal Informatics Application**

(April 2025 - May 2025)

Worked in a group of 10 to develop a web based application for students to track health and habits data in order to improve their ability to work effectively at university. Employed an agile methodology, using Jira and Github to manage tasks. Managed a small subset of activities as the backend development lead, writing and fulfilling project requirements, and implementing features using Supabase and Flask.

Technologies: Python, Flask, JavaScript, Supabase, GitHub, Jira, Docs.

**School Bus Network Optimisation** - [Overview](#)

(January 2024 - April 2024)

Built a program to help school planners effectively capture the student population within a bus network, whilst ensuring reasonable travel times and bus capacities. Implemented a custom **genetic algorithm** and a **hierarchical clustering** algorithm to generate route map visualisations and CSV files for stakeholder use.

Technologies: Python, Matplotlib, Folium, Tkinter.

## Experience

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### **Data Science Intern - London Sock Company - eCommerce Brand** (June 2025 - July 2025)

- Extracted and cleaned over 300,00 rows of order data, grouped and filtered them into customer segments using Pandas, and produced hosted decision-support dashboards using Shiny and GCP for the customer retention team in order to produce new email marketing flows which target specific user groups. The new flows will boost customer lifetime value and reorder rate by suggesting socks based on their own previous actions and historical patterns from other similar customers.
- Set up CI/CD for my application using Github, Docker and Google Cloud Run/Build for future development, and implemented caching using Joblib to reduce page load times from 5 to 0.2 seconds.

### **Work Experience - Ikigai Digital - Digital Banking Consultancy** (Easter 2023)

- Interviewed engineers and consultants at Ikigai, leveraging their professional software engineering advice to improve my skills such as best practices to improve cybersecurity of digital products.
- Introduced to digital architecture, platforming, DevOps, data engineering, SaaS, and other digital banking practices, giving an insight into collaborative programming, company culture, and the Agile methodology in a professional environment.

### **Assistant Tennis Coach - Southfields Lawn Tennis Club** (Summer 2021 & 2022)

- Trained a cohort of over 50 young players and collaborated with a team of experienced coaches to help develop technical skills and encourage learning of the core values of sport. The coaching emphasised the importance of patience, embracing new challenges, and engaging with players and parents positively and openly, whilst avoiding conflicts.

### **Private Tutor** (2021 - Present)

- Passionate and experienced paid tutor for 11+ and GCSE Mathematics, with proven results helping pupils into their schools of choice and to gain desired results. Learned how to communicate my solutions and articulate problems effectively, whilst adapting to the learning styles of different students. Improved ability to organise timings, talk to clients in a professional manner and build a network of pupils.

## Extracurricular

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### **Team Chairman and Manager - Mammoths Rugby Sevens** (January 2025 - Present)

- Managed a 13 person team, organised events and communicated with other parties including sponsors and kit manufacturers. Created reliable connections and resolved both interpersonal and financial issues, leading to an inclusive and enthusiastic atmosphere.

### **Team Mechatronics Lead - Hampton LEH Student Robotics** (October 2022 - April 2023)

- Composed the integration of software, hardware and mechanical components within strict tournament rules. Enabled effective communication between teams, using my knowledge of Python, microcontrollers and materials to find solutions to the competition's challenges.

### **Qualifications and Achievements**

- First Aid (Level 3 EFAW), Level 3 RYA Sailing, LTA Level 1 Assistant Tennis Coach.
- Hampton School 1st XV Rugby Captain, Southfields Lawn Tennis Club Champion U16.
- Silver Arts Award (Trinity College London), Duke of Edinburgh Silver Award, Silver Senior Maths Challenge 2022, Bronze UK Linguistics Olympiad 2023, Advanced to Oxford University Computing Challenge 2023 (Bebras), UKIEPC Programming Contest 2024, DELF B1 French.