

# Blake Harris

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## Education

**Queen's University Belfast**, Belfast, UK **2021 - 2025**  
MEng Software Engineering Second-Class Honours, First Division (2:1)

### Royal Belfast Academical Institution

**A Levels** **2020 - 2021**

Computer Science (A), English Literature (A), German (A\*)

**AS Levels** **2019 - 2020**

Computer Science (A), English Literature (A), German (A)

**GCSEs** **2017 - 2019**

9 GCSEs including Mathematics (B), English Language (A), Digital Technology (A), German (A\*)

## Technical Skills

### Main Tech Stack:

- **Programming Languages:**

- Python (Flask)
- JavaScript and TypeScript

- **Web Development:**

- React
- Next.js
- HTML & CSS

- **Databases:**

- MySQL
- PostgreSQL
- SQLAlchemy

- **DevOps & Tools:**

- Docker & Docker Compose
- GitHub and GitLab
- Rancher (Academic experience/limited)
- Kubernetes (Academic experience/limited)

## Previous Employment

**Admin Officer**, Belfast Health and Social Care Trust, Belfast **July 2024 – September 2024**

- Provided comprehensive administrative and secretarial support, including word processing, minute-taking, and managing correspondence.
- Coordinated meetings, maintained senior managers' diaries, and ensured timely collation and submission of statistical reports.

- Managed and maintained patient databases, ensuring compliance with data protection policies and confidentiality standards.
- Supervised and supported administrative staff, overseeing workload distribution.
- Liaised with internal and external stakeholders, handling queries from service users, carers, and professionals in a professional and efficient manner.

**Student Demonstrator**, Queens University Belfast, Belfast

**September 2023 – January 2025**

- Assisted Level 1 and 2 students with programming exercises, debugging, and troubleshooting technical issues.
- Explained complex coding concepts, reinforcing fundamental programming skills in Python and Java.
- Encouraged a collaborative learning environment, ensuring students engaged with practical coding challenges.
- Maintained lab equipment and software configurations for seamless learning experiences.

**Work Experience Placement**, Kainos, Belfast

**2019 (One Week)**

- Developed a responsive website using HTML, CSS, and JavaScript.
- Collaborated on a Python-based application to monitor patient health updates for a surgery.
- Strengthened problem-solving, teamwork, and time management skills while delivering tasks within deadlines.

## Projects

### **Dissertation Research Project — Detecting Self-Admitted Security Debt Using Natural Language Processing**

- Determine the feasibility of a software tool that leverages Natural Language Processing (NLP) to detect Self-Admitted Security Debt (SASD) within GitHub repository artifacts.
- Developed a Python Flask backend integrated with the GitHub and OpenAI APIs to extract and process repository data, and conduct NLP analysis of Git artifacts.
- Built a TypeScript frontend as a VSCode extension to provide seamless user interaction with the backend.
- Implements NLP techniques to map detected SASD instances to Common Weakness Enumerations (CWEs), enabling categorisation of vulnerabilities and generation of actionable insights to help developers.
- Designed to seamlessly integrate with software development workflows, making it a practical addition to developers' toolkits for improving software quality.
- Orchestrated and deployed using Docker Compose, ensuring modularity and easy deployment.
- Addressed the challenge of dataset creation is a largely underexamined research area, establishing a foundation for experimentation.
- Aims to deliver an early-stage tool that serves as a basis for future research or further development.

## Achievements

- Awarded the "Larmor Exhibition" for outstanding A-Level results and university placement.
- Winner of the "Best Use of AI" prize at the "Sustainability Hack: The Belfast Agenda"

## References

**Dr. Dionysios Athanasopoulos**

Advisor of Studies, Queens University Belfast

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