

Ritvik Kumar

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Computer Science student with full-stack, data, and system reliability experience. Creator and maintainer of Derivative, a debate tracker with 650+ active users. Seeking a graduate role in Summer 2027. British citizen with the unrestricted **right to work in the UK and Ireland**.

EDUCATION

Trinity College Dublin

Bachelor of Arts in Computer Science

Dublin, Ireland

Sept. 2023 – Present

- On track for **First Class Honours** (72/100 in third year)
- Coursework: Algorithms and Data Structures, OOP (Java), Microprocessor Systems (C), Machine Learning
- **Expected Graduation:** May 2027

EXPERIENCE

Google

Site Reliability Engineering Intern

May 2026 – August 2026

London, UK

- Built a full-stack dashboard for **Sellside Ads** monitoring CUIs using **Kotlin** and **Angular**
- Processed and rendered **100000+** data records per query from flagship platforms (AdSense, AdMob, GAM)
- Increased maintainability of code, reducing the number of lines used by 90%
- Authored design documents, evaluating performance tradeoffs and presenting information to senior engineers

PROJECTS

BP Debate Tracker (derivative.lol) | TypeScript, React, FastAPI, Firebase, SQLite

November 2025 – Present

- Engineered a performance-tracking web app serving **600+** users on an **Ubuntu Linux** server
- Stores and handles **10000+** tournament records in over **5 languages**
- Developed a scalable REST API using FastAPI and **SQLite** to handle real-time user analytics
- Trained and integrated a multilingual, resource-efficient **AI text classifier** operating under **500 MB RAM**
- Packaged and deployed using **Docker** and **docker-compose**

Debate Data Analysis | Python, Pandas

April 2026 – Present

- Investigated speaker bias and tracked performance in competitive debating
- Fetched and processed over 500 tournaments
- Calculated scores and trends for speakers, topics, and positions in British Parliamentary Debate

SynthetIQ | Python, FastAPI, React

January 2025 – April 2025

- Architected and shipped a full-stack enterprise tool for intelligent data anonymisation
- Worked alongside **Millennium Management** and other students part of a college module
- Optimised backend latency and resolved critical application bugs utilizing **Python** and **FastAPI**
- Engineered frontend architecture using **React**, implementing strict state management for reliability
- Collaborated cross-functionally in an **Agile** environment to accelerate technical product delivery

Barcode Wallet | JavaScript, React, Vite, Tailwind

December 2024 – Present

- Built and deployed a highly responsive digital wallet management application using **React** and Tailwind
- Implemented a privacy-first storage architecture utilizing the browser **LocalStorage** API

Flight Map Visualiser | Java, Processing, Git

March 2024 – May 2024

- Built an interactive visualisation rendering **500,000+** flight paths in under **5 seconds**
- Used **asynchronous programming** to load large datasets without freezing the UI
- Ran regular **code reviews** across the team to maintain code quality and stability

OTHER INTERESTS

Competitive Debating

College Historical Society

January 2024 – Present

Dublin, Ireland

- Honed critical thinking and structured problem-solving to formulate arguments under strict time limits
- Competed globally as a university representative at the **European and World Debating Championships**

TECHNICAL SKILLS

Languages: Python, Java, Kotlin, C/C++, JavaScript, TypeScript, SQL, HTML/CSS, ARM Assembly

Frameworks & Libraries: React, Angular, FastAPI, Node.js, Pandas, NumPy, JUnit, Scikit-learn

Developer Tools: Git, Docker, VS Code, IntelliJ, Linux/Unix Environments

Core Competencies: Algorithm Design, System Optimisation, Data Structures, OOP