

Miguel Ryan

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[Github](#) | [LinkedIn](#)

Projects

Ethereum Validator

2022-Present

- Established and maintained a validator node for the Ethereum network, the world's largest decentralised blockchain.
- Contributed to network security and consensus by validating transactions and blocks.
- Managed a remote Linux-based server located in Germany, ensuring secure and reliable operations.
- Achieved 95% validation efficiency and maintained 99% server uptime, optimising network participation.
- Gained expertise in server management, security protocols, and blockchain infrastructure.

Distributed Queue System (Microsoft)

2024

- Collaborated with Microsoft to develop a scalable distributed queue system.
- Led the project as the Project Manager, coordinating schedules and meetings with Microsoft mentors.
- Developed integration libraries to ensure seamless compatibility with our system architecture.
- Designed and implemented performance benchmarking dashboards and scripts.
- Managed the cloud deployment process on Microsoft Azure, ensuring reliability and scalability.
- Acquired in-depth knowledge of software development and organisational practices within a large tech company.

IP Switch Protocol

2023

- Created a simulation of the IP Switch Protocol in Java.
- Modelling behaviour including packet forwarding, routing decisions, and network optimization strategies.
- Gained insights into the complexities of network protocols and sharpened my programming skills.

Research Project: Deprivation and Race in Dublin

2022

- Undertook a research project as part of a group, led by a UCD advisor.
- Oversaw the technical aspects of the analysis: data collection, processing, analysis, and visualisation.
- Developed Python code to scrape Irish online media, perform sentiment analysis, and graph results.
- Presented our results to a board of UCD professors.
- Received an A-.

Experience

Data Annotation Tech

March 2024 - Present

- Freelance programmer and AI researcher focused on enhancing AI models for computer science problem-solving.
- Applied and refined comprehensive computer science and programming knowledge across various languages and frameworks.
- Conducted meticulous research on documentation and diverse aspects of computer science to ensure accurate model improvements.
- Developed strong time management and problem-solving skills to successfully manage multiple projects and meet deadlines.

STEAM Academy

October 2024 - Present

- Deliver engaging, hands-on lessons in Robotics and Programming to primary school students (ages 5-12), fostering problem-solving and critical-thinking skills.
 - Oversee the smooth operation of classes, ensuring a safe, inclusive, and stimulating learning environment.
 - Provide mentorship and guidance to young learners, inspiring a passion for STEM subjects.
 - Maintain and manage €10,000 worth of robotics kits and teaching equipment, ensuring all materials are functional and available for use.
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Languages and Skills

Proficient: Java, Python, Version Control, Algorithms.

Knowledgeable: C++, Julia, MySQL, PostgreSQL.

Communication: Effectively communicated project updates and ideas during my academic group projects.

Time Management: Consistently delivered assignments on time, especially throughout the Microsoft project.

Problem Solving: Adept in identifying and resolving technical challenges across diverse projects.

Motivated: Always eager to learn and enhance my skill set.

Education

MSc Computer Science, University College Dublin

2023-2024

BSc Computational Social Science, University College Dublin

2019-2023
