

# Mikolaj Mikuliszyn

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## PROFILE

Second-year Computer Science (AI) student at the University of Greenwich

I'm deeply interested in machine learning, systems development and scalable and safe software. While still early in my career, I am considered an outstanding developer and programmer by those who I've worked with and lead across both personal and school projects.

Focused on backend systems development, high-performance computing, and security-by-design. Proven ability to develop complex optimization pipelines and support cloud-native infrastructure.

## KEY SKILLS

- Languages
  - Python; FastAPI, Django, Pandas (Data Science and Web Development)
  - Rust (Systems/HFT),
  - Java (Backend/Security),
  - TypeScript/JavaScript,
  - Ruby,
- Cloud & DevOps:
  - AWS (EC2, S3, Cloud Migration),
  - Docker,
  - Cloudflare,
  - GitHub Actions
- Testing & Tools:
  - Unittest,
  - Cypress,
  - Bloomberg Terminal,
  - LSEG Workspace
- Core Competencies:
  - Scalable System Architecture,
  - Infrastructure Migration,
  - Empirical Research and Documentation

## RESEARCH & PROJECTS

### *High-Frequency Trading (HFT) Engine | Rust*

- Engineered a low-latency order-matching engine using Rust, leveraging zero-cost abstractions and memory safety to ensure high-speed execution.
- Implemented efficient data structures for ordering books to minimize jitter and handle high-throughput market data.

### *Secure Neobank Application | Java*

- Designed a secure banking system using PECS (Producer Extends, Consumer Super) and bounded type parameters to ensure strict compile-time safety.
- Enforced method guarding and rigorous authorization layers to prevent privilege escalation and ensure administrative actions remain isolated from standard user roles.

### *AI Research: Hybrid Optimization Pipeline | Python*

- Developed a hybrid pipeline combining Evolutionary Algorithms (EA) with Reinforcement Learning (RL) for automated spatial generation.
- Implemented a Multi-Armed Bandit (MAB) model with an  $\epsilon$ -greedy rule for adaptive strategy selection.

### *Social Media Platform | Ruby, Rails | [bjj.space](https://bjj.space)*

- Worked on and help develop bjj.space, which is an online social platform allowing users to explore gyms near them to start or expand their BJJ careers.
- Used containers to allow for parallel work with a senior dev and simulating production state for fast development.
- While working on the project I was able to learn many industry standards from the Full Stack developer I was working with on the project.

## EMPLOYMENT/WORK EXPERIENCE

### **Full Stack Developer** | Arrow Design LTD | Feb 2024 – Jan 2025 – [Arrow-Design.co.uk](https://arrow-design.co.uk)

- Engineered a high-performance web solution using Framer, Figma, and JavaScript, replacing a legacy system to reduce page load times from ~3s to <200ms.
- Developed custom React components (via Framer) and integrated backend services for automated email handling, SEO optimization, and real-time analytics tracking.
- Architected the full UI/UX lifecycle, migrating design prototypes from Figma to a live production environment, resulting in enhanced user engagement and search visibility.
- Proposed and implemented a cloud hosting migration for automation and better future scaling, significantly improving site reliability and reducing infrastructure technical debt.

## EDUCATION

**BSc (Hons) COMPUTER SCIENCE (ARTIFICIAL INTELLIGENCE).** 2024-2027  
*Greenwich University – Predicted 1<sup>st</sup> class*

**Physics, Maths and Computer Science** 2022-2024  
*Twyford CofE School*

**8 Subjects including Maths and English** 2018-2022  
*Ealing Fields High School*

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## INTERESTS

- Dedicated to personal projects that implement safety and security from the root level to prevent future technical debt.
- Native fluency in Polish and English.
- Active follower of industry-leading podcasts on AI ethics and engineering leadership.

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**REFERENCES ARE AVAILABLE UPON REQUEST**