

Sfarghiu Traian

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github.com/trixn

OBJECTIVE

Computer Science student and systems programmer specializing in **Java backend development** and high-performance workflows. Passionate about leveraging robust Object-Oriented Design and modular architectures to solve complex automation problems.

EDUCATION

Babeş-Bolyai University, Faculty of Mathematics and Computer Science Cluj-Napoca
B.S. in Mathematics and Computer Science (2nd Year) 2024 – Present (Expected Jul 2027)

PROJECTS

Parking Automation & Monitoring | *Java, OCR* Feb 2026 – Apr 2026

- Developed a specialized application for police vehicle cameras aimed at automating parking subscription verification.
- Utilized OCR to accurately identify license plates from real-time feeds.
- *Source code is currently unavailable due to ongoing Hackathon participation.*

StudentMarketplace | *Full-Stack — Next.js* Nov 2025 – Present

- Engineered a gamified P2P commerce platform using a Tinder-style swipe interface.
- Developed a scalable frontend with Next.js, focusing on high-performance rendering and seamless user interactions for a mobile-first experience.
- *Note: Private repository; live demonstration available upon request.*

Image Processing Library | *C++17* | [GitHub](#) Apr 2025

- Built a comprehensive C++ image processing engine from scratch, prioritizing memory efficiency and low-level performance.
- Developed modular algorithms for Gamma correction, custom kernel convolutions, and frequency-based filtering.

Caesar Cipher Frequency Analysis | *Security & Algorithms — C* | [GitHub](#) Jun 2025

- Developed a C program to automate the decryption of Caesar ciphers via statistical frequency analysis.
- Implemented three distinct mathematical metrics to calculate language distribution accuracy: Chi-Squared (χ^2), Cosine Distance, and Euclidean Distance.

Development Environment & Tooling | *Workflow Engineering — Lua* | [GitHub](#) 2024 – Present

- Developed a customized Neovim environment to maximize coding throughput.

LEADERSHIP & VOLUNTEERING

Technovation Girls | *Technical Mentor* Jan 2026 – Present

- Providing technical guidance on app architecture, coding logic, and project management, fostering the next generation of women in STEM.

SKILLS & CERTIFICATIONS

- **Primary Languages:** Java (Core, OOP, Collections), C/C++, SQL, Python, TypeScript.
- **Backend & Tools:** JVM, Next.js, Git, Unix/Linux, Maven/Gradle, REST APIs, Tmux, Neovim.
- **Certifications:** Cambridge English Level 2 (Advanced C1); Certificate of Professional Competency in Mathematics-Informatics.