Alexandru Hossu

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EDUCATION
- TU Delft BSc Computer Science and Engineering; Sept 2025 - Present
- Tudor Vianu National High School of Computer Science, Bucharest, Romania; 2021 - 2025; GPA 9.85/10

WORK EXPERIENCE

Research Assistant   IFIN-HH - ATLAS Experiment, CERN   April 2023 - May 2024
- Developed a jet tagging application **using Computer Vision and ML techniques** based on deep convolutional neural networks architecture.

Research Assistant   UPB, ACS   June 2023 - January 2024
- Developed a tool based on Natural Language Processing (NLP) as support for **analysis of the polyphonic model.**; Analysis of Polyphonic Interanimation in Novels, a Support for Understanding Beyond ChatGPT Answers. International Journal of User-System Interaction 16(1), 2023, pp. 11–24.Authors: Stefan Trausan-Matu, Alexandru Hossu. - `https://rochi.utcluj.ro/ijusi/articles/IJUSI-16-1-Trausan-Matu.pdf`

Research Assistant   UPB, ACS   October 2023 - June 2024
- Developed an **optimal design of Quantum Key Distribution networks**, Quantum Computing Laboratory.

Hardware Security Intern   Electron, Romania   April 2025 - August 2025
- Security testing of embedded/IoT devices, **reverse engineering, and forensics**; **Firmware extraction & analysis**; Network traffic capture & analysis; Attack simulation.

PROJECTS
- **llm-decompile-cleaner**, June 2025
  - LLM-powered cleaner for **Ghidra/IDA/Binary Ninja C dumps** to improve pseudo-code read-ability after decompilation.
  - Stack: Python, LLM prompting, parsing.

EXTRACURRICULAR ACTIVITIES
- Founder and Director of High School **Artificial Intelligence Club**, Sept 2023 – June 2025.
- Founder and Director of High School **Cybersecurity Club**, Sept 2024 – Present.
- Founder & developer of `https://vianuhack.club`; built club CTF platform and created beginner-focused CTF challenges. Founder of "vianu_hack" CTF team - ranked 3 on CTFtime, national leaderboard.
- **Artificial Intelligence Course, Stanford Pre-Collegiate Summer Institute**, 2024
- **Data Science and Machine Learning Course, Columbia University**, 2024

AWARDS AND CONTESTS
- Qualified for DefCamp CTF Final Stage, 2025.
- 2nd place, UNbreakable Cybersecurity Teams Competition, 2025.
- 1st place, Hardware Hacking Electron Cybersecurity Teams Competition, 2025.
- Member of National Team at the Cybersecurity National Olympiad, 14th place at National Stage (2024), 15th place at National Stage (2025).
- FIRST Championship – Houston, World Championship, FTC (Franklin Division), 2022.
- Gold Medal and Think Award, FTC Robotic Competitions – Jamaica National Championship, 2022.

SKILLS
- **Programming:** C; **C++**; **Python (DS, ML, networking)**; **Java**; **Rust**; **Assembly (AT&T syntax)**; Bash; JavaScript.
- **Reverse engineering & exploitation:** Binary Analysis; Malware Analysis; Android RE; Windows; Linux.
- **Hardware & embedded security:** firmware extraction & analysis; reverse engineering; device forensics; bootloader unlocking; PCB tracing; flash dumps.
- **Android (security & low-level):** Rooting & Bootloader Unlocking; ADB & Fastboot; Magisk; NDK; Frida.
- **Web security:** Authentication/session testing; Vulnerability discovery; Attack simulation.