Alexandru Aioanei

Nijmegen, Netherlands

0040741433919 | alexandru.aioanei@ru.nl | alex03aioanei@gmail.com |
linkedin.com/in/alexandru-aioanei-7a8370255 | github.com/AlexandruAioanei

EDUCATION

Radboud University   Nijmegen, NL
Bachelor of Computing Science,   *Sep. 2022 – Present (Expected Jun. 2025)*
Specialization in Cybersecurity and Data Science,
Minor in Business Administration for Computing Science

EXPERIENCE

Student Assistant   Sep. 2024 – Present
Radboud University   *Nijmegen, NL*
Courses Assisted: Imperative Programming, Object-Oriented Programming, Logic and Application,
Information Modeling and Databases (IMDB), Operating System Security

Contributions
- Assisted students during tutorial sessions with programming assignments, debugging, and conceptual understanding.
- Led plenary sessions to explain key topics, review exercises, and address student questions.
- Supported course instructors by preparing and reviewing tutorial materials and exercises.

Course-Specific Contributions
- **Imperative Programming (C++):** Covered programming fundamentals, complexity analysis, sorting algorithms, memory management, and pointers.
- **Object-Oriented Programming (Java):** Taught class design, inheritance, polymorphism, and encapsulation.
- **Logic and Application:** Assisted students with Coq proofs, formal logic reasoning, and theorem proving.
- **Information Modeling and Databases (IMDB):** Guided students in database schema design, SQL querying, and normalization.
- **Operating System Security:** Provided support on Linux security concepts, access control, and secure programming practices.

Software Engineer   Jan. 2025 – Present
Gip House Student Company   *Nijmegen, NL*
Contributions
- Developing a SaaS web application for KLIC Genius using Angular and TypeScript.
- Integrating ArcGIS for spatial data visualization and interactive mapping.
- Implementing modular and scalable software components for long-term maintainability.

PROJECTS

Simple Unix Shell Implementation | *C, Systems Programming*   Oct. 2024 – Oct. 2024
- Built a minimalist Unix shell in C capable of executing commands, handling piping ('—') and redirection ('¡', '¿').
- Implemented process management using `fork()`, `exec()`, and `wait()` system calls.
- Added job control features such as background execution ('') and signal handling.
- Source code: github.com/AlexandruAioanei/simple-unix-shell

Thesis: Comparative Analysis of Cortex-M4 and Cortex-M33 Microcontrollers | *PyOCD* Feb. 2025 – Present
- Conducting a detailed comparison of ARM Cortex-M4 and Cortex-M33 architectures, focusing on performance, security (TrustZone), and power efficiency.

- Developing and benchmarking assembly routines to measure instruction execution times on Cortex-M4 and Cortex-M33.

- Using PyOCD and Python-based tools for flashing, debugging, and profiling execution cycles on STM32F407.

- Analyzing security features such as ARM TrustZone and their impact on embedded security applications.

- For additional projects and contributions, visit my GitHub: github.com/AlexandruAioanei.

TECHNICAL SKILLS

Languages: C/C++, Java, Python, SQL, Haskell
Web Technologies:HTML, CSS, JavaScript, Typescript, REST API
Mobile Development: Android Studio, Kotlin
Frameworks: React, Node.js, Angular, WordPress
Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: pandas, NumPy, Matplotlib **Other:**RESTful Services, Firebase, Postman

LANGUAGES

English: Professional Proficiency (IELTS C1)
Romanian: Native
Italian: Native

MISCELLANEOUS

Currently pursuing the "Heck the Box" Bug Bounty Hunter path: Gaining hands-on experience in web application security, vulnerability identification, exploitation, and vendor communication.

Driving License: Full (Category B)