# Andrei Petrea

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## EDUCATION

### University POLITEHNICA Bucharest

October 2021 - July 2025

Bachelor of Computer Science

• Relevant Coursework: Databases, Data Structures and Algorithms, Computer Networks, Artificial Intelligence, Programming Paradigms, Algorithm Design and Analysis, Parallel and Distributed Programming, Operating Systems, Computer Architecture, Object Oriented Programming

## EXPERIENCE

#### Undergraduate Teaching Assistant

September 2023 - Present

 $University\ POLITEHNICA\ Bucharest$ 

- Teaching students numbering 13-17 in laboratory: Object Oriented Programming, Programming Paradigms
- Participated in the exam grading and assignment creation for Object Oriented Programming course

#### **PROJECTS**

 $\mathbf{GuardVPN} \mid \mathit{React.js}, \ \mathit{TailWind} \ \mathit{CSS}, \ \mathit{Python}, \ \mathit{Flask}, \ \mathit{MongoDB}, \ \mathit{WireGuard}, \ \mathit{Droplets}$ 

December 2023

BEST Engineering Marathon '23

- Developed a SSO over WireGuard for securing client's connections from multiple devices by automating the WireGuard Tunnel configuration and deployment
- Designed and deployed a scalable RESTful API using Flask, making full use of our cloud-based solution
- Implemented a fully responsive website using Tailwind CSS and React, adhering to best practices

CyberSecurity Learning Platform | Next.js, TailWind CSS, Express.js, PostgreSQL, Prisma ORM November 2023 Innovation Labs CyberHack

- Implemented an online platform for interactive **cyber security learning** through **gamifying** the learning experience with fun, hands-on activities
- Utilized Next.js in conjunction with Tailwind CSS and Framer Motion for an engaging and satisfying UI/UX
- Integrated Auth.js for easy and seamless user authentication through various providers like Google, X and GitHub, prioritizing user convenience and privacy

Online Chess Game | React.js, Express.js, Socket.IO, HarperDB, Docker

July 2023

HackITall: 4th Place

- Contributed alongside two colleagues to the development of an online room-based chess app offering the opportunity to play against AI bots of varying difficulty or against other human players
- Implemented a real-time chat feature using WebSocket and Socket.io, enhancing user engagement and interactivity
- Deployed the app in a **Docker** container for a **fast** and **streamlined** experience across devices

### School Management Application | Java, Swing GUI

January 2023

- Developed a comprehensive application in Java with Swing for managing student grades, facilitating marking, updating, and reviewing, while also enabling the seamless generation and distribution of report cards to students' families
- Utilized a variety of design patterns, including Singleton, Factory, Strategy, Builder, Observer, Visitor, and Memento, in the architecture of the application

#### Extracurricular Activities

### Web Programming 101

Hackademy

 $To ext{-}Do\ List$ 

• Developed a minimalist to-do application using vanilla HTML, CSS and JavaScript, leveraging sessionStorage for data storage, emphasizing lightweight functionality and browser compatibility

#### Python Programming 101

Hackademy

 $Discord\ Bot$ 

• Engineered a versatile Discord bot to **automate** server tasks, enabling music playback through the **YouTube API** or MP3 files, demonstrating proficiency in **asynchronous programming** and **API integration** 

CCNA1 & CCNA2 Hackademy

# TECHNICAL SKILLS

## Languages:

- $\bullet \ \, \text{Intermediate Knowledge: C, C++, Java, JavaScript, TypeScript, HTML, CSS, Python, Bash}\\$
- Basic Knowledge: C#, Haskell, Lisp, x86 Assembly, MATLAB

Technologies: Makefile, Linux, Git, React.js, Docker, Tailwind CSS, Flask, Node.js, Express.js, MongoDB, SQL