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Casian-Stelian Criste

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Github: AllCasian
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Summary

Computer Engineering graduate with a strong technical foundation and a passion for learning through practical experience. I work well in teams, contribute positively to shared goals, and approach challenges with a problem-solving mindset. I am particularly interested in frontend development and eager to gain hands-on professional experience as I begin my career.

Education

Cluj-Napoca, RO **Technical University of Cluj-Napoca** 2021-2025

- Bachelor of Engineering in Computer Engineering.

Projects

AI-Powered Recipe Finder App

https://github.com/AllCasian/AI-Powered-Recipe-Finder-App

- Developed a full-featured React Native + Expo app using TypeScript, featuring a clean and responsive interface styled with NativeWind (Tailwind).
- Integrated the Google Gemini API to generate custom recipe suggestions with ingredients and cooking steps in real time.
- Implemented search functionality, loading states, and dynamic navigation with Expo Router, allowing users to explore detailed recipe pages.
- Built a favorites system using React Context API, enabling users to save, view, and manage preferred recipes seamlessly.

Energy Management System

https://github.com/AllCasian/Energy-Management-System

- Designed and developed a distributed Energy Management System using Spring Boot microservices for client, device, and monitoring operations.
- Implemented RabbitMQ (CloudAMQP) for asynchronous communication between services, enabling real-time processing of sensor data and automatic threshold alerts.
- Deployed all services in Docker containers with Traefik as a reverse proxy providing load balancing, HTTPS encryption, and unified routing for the frontend and backend.
- Built a React frontend that communicates securely via HTTPS with the microservices through Traefik.
- Integrated PostgreSQL databases per microservice to ensure modularity, data isolation, and scalability.

Automatic Guitar Tuner

https://github.com/AllCasian/Automatic-Guitar-Tuner

- Built a hardware-based automatic guitar tuner that detects and adjusts string pitch in real time using an Arduino Uno.
- Implemented a custom FFT-free frequency detection algorithm with ADC interrupts for accurate pitch analysis.
- Developed a Flask backend to store tuning data into a MySQL database and a React frontend for real-time visualization.
- Controlled a 28BYJ-48 stepper motor with a ULN2003 driver to automatically tighten or loosen guitar strings.
- Designed analog amplification and filtering circuits for clean signal capture from the guitar input.

Technical Skills

- Languages: C/C++, TypeScript, JavaScript, HTML/CSS, Python, Java, Kotlin, VHDL, Assembly.
- Frameworks and libraries: React, React Native, NativeWind, TailwindCSS, Expo, Angular, Node.js, Flask, Spring Boot, OpenGL, OpenCV.
- Tools: MySQL, PostgreSQL, MongoDB, Git, Docker, Traefik, Nginx, RabbitMQ, Linux, Arduino.

Certifications

Social Enterprise Manager

- Gained leadership, teamwork, problem-solving, innovative thinking, and strong communication skills through social enterprise management training.