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Education

2021 - in progress (4th year student)
University Transilvania of Brașov, Electrical Engineering and Computer Science
Telecommunication Systems and Technologies

Skills

- Python
- Cloud Computing
- React
- Flask
- React Native
- C++
- Java
- Firebase
- Spring Boot
- SQL & NoSQL Databases
- API Development & Integration
- Object Oriented Programming

Language

Native Romanian

Advanced English - B2

Certifications

- AWS Certified Cloud Practitioner

BADEA COSMIN - SEBASTIAN

STUDENT

I'm a 4th year student pursuing a bachelor degree in Telecommunication Systems and Technologies.
I'm an open person, eager to grow through various activities. I easily adapt to new environments and enjoy working with colleagues as part of a team. My top quality is flexibility, which I consider essential in a working environment. Furthermore, seriousness and discipline are other characteristics that define me. I'm seeking experience in the IT field.

Experience

2024
Siemens Industry Software - Summer Internship
Cloud Computing Intern
During the internship, I gained hands-on experience in full-stack development, microservices, and cloud computing.

- **Full-Stack Development**: Built a RESTful application with Python (Flask) and React.
- **Microservices**: Extended said application with a microservices architecture using Consul, ELK stack, load balancing, and Docker.
- **AWS Cloud**: Worked with AWS services including VPC, EC2, RDS, Kubernetes (EKS), API Gateway, S3, and CloudFront, among others.
- **Serverless**: Developed serverless applications using AWS Lambda, EventBridge, and Step Functions.

2023
Bearing Point - Internship
Backend Developer
During the internship, I had the opportunity to join a team led by a mentor, from whom I gained invaluable insights.

- **Team Collaboration**: I worked under experienced leadership, collaborating with colleagues and using Git for version control to enhance our workflow.
- **Java & Spring Framework**: I built solutions with Java and the Spring Framework. I applied SOLID principles and implemented RESTful architectures.
- **Agile Methodology**: I acquired hands-on experience with Agile practices. This methodology structured our workflow and fostered iterative development.

2022 - 2023
Transilvania Star Group | tsg.unitbv.ro - Volunteer
Backend Developer Volunteer
During my volunteer experience at TSG, I contributed to the development and management of software applications aimed at improving the University's IT infrastructure.

- **Software Development**: I contributed to enhancing the University's IT system by creating, updating, and modifying software applications using C# and the .NET framework. I applied CRUD procedures and ensured robust back-end functionality.
- **API and Service Implementation**: I created and managed APIs while implementing various services tailored to the University's requirements.
- **Event Organization**: I contributed to the organization of university events, such as AFCO, which improved my teamwork and organizational skills.

Notable Projects

Later: AI-Powered Advanced Scheduler
A SaaS task management and scheduling platform leveraging advanced integrations and cloud tech to boost productivity:

- **Smart Scheduling**: **Gemini AI** for intelligent task automation, recursive scheduling, and voice control;
- **Secure Access**: **Clerk** (with Google sync) for secure login;
- **Cloud SaaS**: Real-time **Firebase** storage, live weather updates (**OpenWeather API**), and **Stripe**-powered subscriptions.

Real-Time Multiplayer Tic-Tac-Toe
A web-based game enabling real-time competitive play using cloud-synced state management:

- **Tech Stack**: Built with React and Firebase Realtime Database for instant move synchronization;
- **Real-Time Gameplay**: Ensures immediate and interactive play with live state updates;
- **User Experience**: Features a responsive design optimized for both desktop and mobile platforms.

Virtual Resume

Citybreak: Cloud-Native Travel & Events Platform

A containerized **Java Spring Boot** application for discovering accommodations and events, complete with an admin dashboard, donation functionality, and automated weather integration.

- **Containerization & Deployment**: Runs J**ava Spring Boot** with a **MySQL** database in separate **Docker** containers (via **Docker Compose**). Deployed on **AWS** with distinct **EC2** instances for the main app and the accommodations microservice.
- **Accommodations Microservice**: Displays real-time lodging options on a map, operating independently from the main application.
- **Admin Dashboard**: Enables non-technical users to approve events and automatically fetch weather data from the **OpenWeather API**.
- **User Authentication & Donations**: Using Spring-based login for secure access and integrates **Stripe** for a dedicated donation button.

Real-Time Ocular Analysis and Detection

A Python-based drone system that identifies unfit drivers through real-time facial landmark tracking and a custom CNN for eye movement analysis.

- **Facial Landmark Detection**: Used a pre-trained deep learning model to track facial features in real-time.
- **Ocular Analysis**: Developed a custom-trained CNN to analyze eye movement and detect anomalies associated with intoxication.
- **Real-Time Processing**: Optimized for low-latency inference to run efficiently on drone hardware.
- **Python & OpenCV**: Integrated computer vision pipelines using OpenCV and deep learning frameworks.

IoT Device for 5G Network Vulnerability Detection and Analysis

A cloud-connected IoT system designed to scan and analyze 5G network vulnerabilities. This is my bachelor's degree project (in progress), using a Raspberry Pi for automated device detection and risk assessment, with real-time insights via a web dashboard.

- **Automated Network Scanning**: Detects all devices and flags potential vulnerabilities.
- **Security Analysis**: Identifies risks such as open ports and outdated firmware.
- **Web Dashboard**: Offers real-time, user-friendly insights.
- **Microservices Architecture**: Ensures scalable and modular assessments.
- **Cloud Storage**: Stores data for ongoing analysis and reporting.

The underlined text will redirect you to its GitHub Repo. There are more projects on my GitHub and on my personal website.

Performances

AWS Certified Cloud Practitioner

I achieved the AWS Cloud Practitioner Certification, which solidified my understanding of core AWS services and cloud fundamentals. This milestone not only reinforces my technical skills in scalable cloud architectures and security best practices but also further motivated my continuous drive for learning and innovation.

International Conference on Interactive Collaborative Learning - Scientific Paper Published

In September 2024, I presented my first international conference paper, "Integrating AI and UAV Technologies for Enhanced Workplace Safety," online at ICL 2024 in Tallinn, Estonia. This experience inspired me to pursue further research and academic involvement, offering valuable insights into current technological trends and research methods.

AFCO 2024 - Participant

I participated, for the second consecutive year, in this event, this time with the early mentioned project, precisely Real-Time Ocular Analysis and Detection. It was an amazing opportunity to discuss with people that work in the field, receive feedback, and suggestions for improvement.

Scientific Students Communication Session - 1st place

It was a competition organized by the Department of Electrical Engineering and Computer Science, similar to the AFCO 2023 event. I participated with the same project, but in an updated form.

AFCO 2023 - Participant

AFCO stands for 'Graduates and Companies Face to Face', an event organized by Transilvania University of Brașov, where any student can present their project individually or as part of a team. I participated with a project: The Secretariat's Digitization.

More important milestones about my journey can be found on my website.