RUSU DINU-ȘTEFAN

Senior FullStack Software Engineer

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⚲ Bucharest, Romania

EDUCATION

| Master of Software Engineering | University Politehnica of Bucharest | 🗓 Oct 2024 – Jul 2026 |
| Bachelor of Computer Engineering | University Politehnica of Bucharest | 🗓 Oct 2020 – Jul 2024 |

EXPERIENCE

Senior FullStack Software Engineer

Tazz by eMAG

🗓 Aug 2021 – present   ⚲ Bucharest, Romania

- Playing a **key role** in the development of Tazz direct (LAAS) service, finishing the MVP in **under three months**. Maintainer of the Tazz UI-Kit library.
- Developed a microservice in **Spring Boot** that orchestrates the automatic dispatching algorithm by creating dispatch cycles with bundled couriers and orders as well as handling dynamic configurations each city cluster.
- Built in an Agile manner a Taxonomy system, which allows for the **dynamic creation of categories** and **custom attributes** for products, for the Machine Learning & Algorithms team.
- **Audit system**, which allows for the inspection of an order, providing details about the client, products and delivery route.
- **Architecture** for a **custom access control system**, in order to prevent unauthorized access to the database, and **managed permissions elevation** for users. **Coordinated and lead** 2 junior developers that built this project, aiding with the implementation of the Spring Boot backend.
- Developed a microservice that tracks KPIs and triggers **custom system alerts** that prevented **loss of data** and contributed to the **overall improvement of all Tazz applications** by providing scheduled reports and alerts on Teams and email. This microservice is **highly customizable**, written in Python and relies on the Factory and Strategy design patterns, as a new alert could be added to the system with a new JSON config.

Contracted Trainer

Deutsche Bank Cloud School 2022, 2023 & 2024

🗓 Mar – Sept, each session

- Trained Juniors from Deutsche Bank in Java and **Spring Boot**.
- Created assignments that are **automatically graded** by GitHub Classroom using **JUnit5 tests**.

SKILLS

**Java, Dart, Typescript, Javascript, NestJs, Python
Spring Boot, Flutter, Angular, GraphQL
Docker, Postgres, MongoDB, Elasticsearch, AWS**

VOLUNTEERING

- Organizer, Mentor & Judge at the "Hardcore Entrepreneur" UPB contest in 2021, 2022, 2023 & 2024
- Judge & Mentor at the National Olympiad "InfoEducatie" in 2021 & 2022

HONORS & AWARDS

- IEEE Published Paper - "LIFELINE-Emergency Patient Data in a Distributed Manner" at **IEEE International Conference on Blockchain**
- Invited at **PRO TV in 2019 & 2022** (ILikeIT)
- SCSS - UPB, **1st place** - 2022 & **2nd** - 2021
- Infoeducatie Nationala, **2nd place** - 2020 & **top 15%** - 2019

PROJECTS

Minesweeper PVP

- Developed a PVP minesweeper game. The backend that handles realtime player interactions is built in **Spring Boot** with Websockets (STOMP) and MongoDB & Flutter front-end.

Custom Built CDN

- Built a custom CDN from scratch using Spring Boot. Optimized for **serving images in under 100ms** [tested in Romania, on devices with latency under 10ms]. Auto-image resizing and smart cache. **Computer vision** endpoint for recognising faces for auto generation of profile pictures.
- Unit tests written in JUnit4 and load tested with K6. Kubernetes with auto-scaling.

Gomoku MiniMax

- Gomoku game in **Scala** with **MiniMax, Alpha-Beta pruning and memoization**. Played against my colleagues and the AI of the teacher which resulted in draws and some wins for my implementation.

Lifeline

- A **blockchain**-based application that shows vital data about the patients. The smart contract is stored on the **Ethereum blockchain** while other data is handled by the back-end written in **Spring Boot** with MongoDB & Flutter front-end.

Comentarii BAC Romana si eseuri audio

- A cross-platform app with essays for a National Exam. More than **25000 total downloads** and **3000 active users monthly**.
- **Top 5 trending educational apps** on Google Play, 2021 and top 10 on App Store in 2024.

Divers Data

- Developed the **first virtual logbook for drivers**. Drivers Data is a cross-platform serverless app that can generate PDF and Excel **reports for up to 3 years, in under 15 seconds**. >50 users daily, >300 MAU.

EHR Blockchain & LLM based platform

🗓 Dec 2023 – Jul 2024

- Developed a web platform for storing and managing Electronic Health Records as well as prescriptions, using the Hyperledger Fabric private **blockchain** to store the data and the Llama3 **Large Language Model** to create a **chatbot** for the platform, which can be asked by users to fetch data from the blockchain.
- The platform is built using **Angular** for the frontend which interacts with the two microservices built in **NestJs**, the core backend which connects to a **Postgres** as well as to the two Smart Contracts (chain code, written in Typescript) deployed on the **Hyperledger Fabric** network and the chat middleware which connects to a **MongoDB** database.
- Authentication is done using **Keycloak** and provides different roles for the users, such as doctor, patient, and pharmacist, to which the user interface adapts.

Web & Mobile Software Engineer for Cosmin Savu & Paul Angelescu

🗓 Dec 2019 – March 2021

- Developed in **under 1 week** their websites and cross-platform Mobile Apps in an Agile manner, using React & Angular (SSR + SSG), Flutter, Spring Boot, MongoDB, Firestore, Elasticsearch and a custom-built CDN for fast-size-optimized images, based on a Hybrid-cloud architecture.

Kubernetes Cluster using 3 Raspberry Pi4s

🗓 February 2021

- Built and maintained a server used for Web Hosting (microservices & other backend-specific stuff).
- Set up a high performance Kubernetes Cluster using three Raspberry Pi4s, to host auto-scaling containers for the Drivers Data microservices.
- Set up: RHEL8 (Red Hat Enterprise Linux 8), NGINX (reverse proxy, cache, SSL, HTTP2, backup server redirects), Prometheus, Grafana, MongoDB, Elasticsearch, Kibana, Prometheus, Docker.
- Custom fan speed controls using IPMI.
- Auto server restart on power loss.
- Auto app-restart (for the hosted microservices / apps) on power loss / server crash.
- Auto SSL certificate renew.
- Also deployed everything on a Dell PowerEdge R610 server.

Game Assembler & Emulator - "Fantasy Game Console"

🗓 Hackathon "Infoeducatie" 2020 - 24h

- Developed with my teammate an Assembler and Emulator, written in C++, for packing and playing games on an emulated old console.
- 128 bytes of RAM, 4000 bytes of ROM, 3840 VRAM, a resolution of 40 x 192 pixels.
- 6 general registers and 4 special registers for the program counter, stack indicator, input data, and a utility of your choice.
- 6507 instructions per frame, 60 frames per second.
- All registers are one byte in size.