Dan **Duta**

Software Engineer, Innovation Labs 2021 Start-up of the Year

022256, Ciocarliei 24, Bucharest, Romania

(+40) 742-029-011 | danduta23@gmail.com | danduta.github.io/ | danduta | dan-duta

Education

Faculty of Automation and Computers (Politehnica University) *Bucharest, Romania*

B.Sc. in Computer Science and Engineering *Sept. 2018 - July 2022*

Bachelor's project - Resilient data processing engine using Kafka and Spark

Undergraduate TA for Computer Programming and Intro to Operating Systems

Skills

Advanced	TypeScript, React, Java 8+, high-performance applications, Kafka, Kubernetes and containerization
Intermediate	Spring, Spark, Python, adaptive distributed systems
Other	CI/CD through GitOps, Jenkins and Spinnaker, scripting, Helm charts

Experience

Bolt *TypeScript, Node.js, React*

Software Engineer *May 2023 – Present*

- Engineer in the **Delivery Pricing domain** for the **Bolt Food** app, working on micro-services pertaining to eater delivery fees and courier earnings.
- Worked closely with product managers, data scientists and data analysts to make **data-driven decisions** and try to achieve **optimal pricing**. Analysed and modelled eater and courier behaviour and built tools that leverage this information to **increase per-market profitability**.
- **Feature lead** for the **effort-based earnings** initiative - leading the project from discovery through roll-out. This implied validating the concept of altering order acceptance rate via earnings and developing a model similar to the mental models of couriers. The results were **normalized acceptance rates** in all markets and a **7% increase in profitability (over 90 million € profit)**
- Developed automated courier earnings - an automation pipeline that strives to achieve a balanced market based on forecasted supply/demand on an hourly and geographical basis. This was an effort to remove the human agent component and achieve a **fully automated earnings** scheme. Generated a **5.5% increase in profitability (over 70 million €)** and reduced the need of manual configuration.
- Fast-paced environment where the **time-to-market** of an idea is **really short**. Every new feature is prototyped in 1-2 weeks, **A/B tested** in a couple of markets then implemented for global deployment.

London Stock Exchange Group *Spring, Java, AWS*

Senior Software Engineer *January 2023 – May 2024*

- Worked on multiple micro-services for the Exchange's Clearing division as part of the Risk Management team
- Improved the performance of the existing EquityClear, RepoClear and Collateral Management services by **50-1500%**. This included fully migrating stored procedures to standard JPQL queries, **pre-processing and caching computationally-heavy and frequent queries** and streamlining the code.
- Fully **migrated two services** from an on-premise VM solution **to containers deployed in AWS** with a **"lift and shift"** approach. Achieved a seamless migration without any production incidents. Single handledly **developed the architecture for the new design, built automated deployment pipelines** and made general improvements to the CI/CD of the projects. Introduced **code quality gates** via SonarQube
- Worked on Margin Simulator, a tool that allows members to simulate their margins for different trading patterns or portofolios. Implemented a **distributed master-worker** mechanism to break down the heavy margin calculations into small tasks and run them on multiple machines.
- Frequently **met with stakeholders and analysts** to assess their needs and convert them to bite-sized tasks.

”Programare pentru toti” – ”Programming for everyone”

Teaching, C, data structures

Teacher/instructor — *September 2023 – Present*

- After leaving Adobe, they have discontinued ”Programare pentru toti” and I decided to keep running the programme on my own.
- Held weekly lessons centered around the first year Programming/Data Structures courses curricula.
- With promoting help from the Students Association (LSAC), got to a peak attendance of **150 students** for the pointer/memory management lessons, with an average attendance of 40 students
- The students completed a feedback form after every lesson and I implemented the feedback received to improve my teaching skills. **The average score** they gave the lessons is **4.7/5**

Adobe

Spring, Kafka, Kubernetes, ADX

Software Development Engineer — *December 2021 – January 2023*

- Worked on Adobe's customer experience management suite, **Adobe Experience Platform**
- Being part of the Skybridge initiative, I took part in providing **HIPAA compliace** through the ability to audit user actions in the platform. Used Spring Boot, Kafka and Azure Data Explorer to process audits without data loss and an **SLA of 99.9% uptime, <25ms latency**
- On the **Pipeline** team, I took an operations-oriented role where we managed one of the world's **largest Kafka on Kubernetes clusters** in the world, with over **1k nodes** across 2 cloud providers and one bare-metal solution, spanning **24 clusters** over **14 regions** around the globe.
- The Pipeline is a highly available distributed system that easily handled over **40GB/s**, with usually **tens of millions of messages/second**. During my time, daily traffic rose up to 40PB/month with around **3PB/day** during the holiday season, including cross-region replication.
- Took part in hardening the Kafka clusters and preparing for upcoming traffic increases by ensuring scalability and resiliency. Deployed a Kubernetes operator to manage and synchronize Vault secrets.
- Spearheaded the Adobe university engagement program at UPB where I developed **three** new initiatives for students with varying level of knowledge. Took over Adobe's relationship with UPB and **handled communications with the university's leadership and faculty**.
- Launched *”Programare pentru toti”*, a program aimed at first year UPB students. **Led a team of 16 engineers** where we developed support materials and held weekly sessions with the students.

AMIQ EDA

Java 8, Eclipse RCP, JUnit, SWT

R&D Engineer — *July 2020 – November 2021*

- Worked on Eclipse DVT, a **(System)Verilog/VHDL/eLanguage IDE** based on the Eclipse framework.
- As being part of the UX team, I was responsible of addressing **high-priority performance issues** reported by our clients. This led to big improvements in the accuracy and performance of DVT features, including **better hyperlink accuracy based on semantic context**, **context-aware** Design Breadcrumb, improved top file compilation **error checking**, better view performance through **lazy caching and rendering**, more accurate signal tracing etc.
- Improved **overall responsiveness** of the IDE by separating many operations from the main thread, as well as **parallelizing computionally-heavy** actions.
- Frequently met with our clients - hardware design and verification engineers working for**top semiconductor manufacturers** - for debug sessions and feature requests.
- Provided code coverage through **JUnit** tests, utilising both unit and integration testing.

2Space

C++, Python, InfluxDB

Fullstack Developer — *October 2019 – December 2021*

- ***Highlights:*** **Start-up of the Year** at **Innovation Labs** 2021, competitor at **EuRoC** (European Rocketry Challenge)
- Implemented the software platform used for testing the engine on the ground (managing **data acquisition and interpretation**) and the software platform for **engine control and monitoring for a liquied-propellant rocket**.

Mentor Graphics

C++, bash, Python, Yocto

Embedded Software Engineering Intern — *July – October 2019*

- Worked on a **SOTA update** solution based on OSTree, aktualizr and OP-TEE for Renesas Salvator-X boards running **Automotive Grade Linux**.
- Implemented a feature capable of updating the **root filesystem and the Linux kernel** and could **flash new firmware on the board**.
- Improved the U-Boot code by patching the default environment to make the bootloader boot the board into OSTree and **integrated the patches in the AGL Yocto build**.
- Provided a backend solution for deploying the updates from the repository **securely**.