Dan **Duta**

Software Engineer, Innovation Labs 2021 Finalist

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Education

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

B.S. in Computer Science and Engineering — *Sept. 2018 - PRESENT*

Skills

Advanced	C, Java 8+, Linux-based operating systems, multi-threaded applications
Intermediate	Python, C++ and STL, TCP/IP stack and networking, JUnit
Other	git, Yocto, Flask, Eclipse SDK, SWT, OOP and design patterns, shell scripting, functional programming, data structures and algorithms

Experience

AMIQ EDA — *Java 8, Eclipse RCP, SWT*

Software Engineer — *July 2020–PRESENT*

- Worked on Eclipse DVT, a **SystemVerilog/VHDL/eLanguage IDE** based on the Eclipse framework that uses the Standard Widget Toolkit as the graphical library.
- Built a **highly-concurrent, lazy** Path Manager responsible for serving instances to features of Amiq's tools, which is consumed by many subsystems (breadcrumbs, hyperlinks, tracing port connections, semantic highlighter).
- The computation of the tree was kept **under 10ms** for real-world projects and library files, parsing **hundreds of thousands** of lines of code and utilising state of the art caching mechanisms.
- Created from scratch many graphical components and features and reworked some of our tools' features, including a **lazy** view, new breadcrumb bars and more.
- Provided code coverage through **JUnit** tests, utilising both unit and integration testing.

2Space — *C++, Python, InfluxDB*

Fullstack Developer — *October 2019–PRESENT*

- **Finalist** in **Innovation Labs** 2021, taking part in **EuRoC** (European Rocketry Challenge) 2021 in Ponte-de-Sor, PT
- Currently working as part of a team building a **liquid-propellant rocket**.
- Implemented the software platform used for testing the engine on the ground (managing **data acquisition and interpretation**) and the software platform for **engine contro and monitoringl**.
- Implemented a serial protocol for on-board communication between the antenna and the central ECUs.

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**.

Politehnica University of Bucharest

Undergraduate Teaching Assistant — *September 2019–PRESENT*

- **TA** for the Computer Programming and Introduction to Operating Systems courses.
- Held practical laboratories for students where I've helped them get a better grip on the notions presented in the lecture and solve problems in **C/bash**, created and reviewed assignments.

Personal projects — *Python, C++, C, Networking stack*

Click the links!

- Router implementation with ARP/ICMP and forwarding support — Small web app to control the lights
  Messaging system implemented in C++ using TCP sockets — C pre-processor and stdio library implementation
  Presentation website