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

Experience

AMIQ EDA

Java 8, Eclipse RCP, SWT

Software Engineer — *July 2020–PRESENT*

- Built a **highly-concurrent** Path Manager responsible for serving instances to consumers inside of Eclipse DVT, a **SystemVerilog/VHDL/eLanguage IDE**, which is consumed by many subsystems (breadcrumb, hyperlinks, tracing connections, semantic highlighter). The manager computes an instance tree for a given file, based on the elaborated model of the project.
- The computation of the tree was kept **under 100ms** for real-world projects and library files, parsing **hundreds of thousands** of lines of code.
- Redid the **Design Breadcrumb** subsystem, making it cursor sensitive with **no overhead or performance issues**.
- Redid the **Outline View**, improving its performance on large files (about **10 times faster using 30% of the memory)**

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 control**.
- 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