

Marko Vejnović

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EDUCATION

Northwestern University

BS/MS in Electrical Engineering

Sep 2019 - Jun 2023

3.66 GPA

EXPERIENCE

Tesla Inc. | C, C++, ARM, TI Hercules

Firmware Engineering Intern

Jun 2022 - Sep 2022

Palo Alto, California

- Architected SOC data storage firmware enabling the Tesla Semi to provide accurate range estimation.
- Developed, debugged and validated low-level I²C driver, EEPROM load-balancing layer and high-level storage module.
- Implemented accel. ASIC driver and high-level software emitting road roughness data for ML-based lifetime estimation.
- Proposed and developed critical error alerting on HV systems, effectively removing all CPU abort bugs from production.

Northwestern University, Center for Robotics and Biosystems | C, Python, UNIX, RPi

Undergraduate Research Assistant in Robotics

Jan 2020 - Present

Evanston, Illinois

- Introduced innovations to a medium-scale swarm system improving network stability by 1000%, positioning accuracy by 30%.
- Researched computer, motor, battery performance in custom single-motor drones, improving flight stability by up to 20%.
- Assisted graduate students with research projects through manufacturing, code review, measurement and systematization.

Floorcenter d.o.o. | PHP, Laravel, Vue, PostgreSQL, Android, Docker

Software Engineer

Jan 2021 - Aug 2021

Banja Luka, Bosnia & Herzegovina

- Reduced costs by over \$10,000 annually with whole-stack, multi-client application.
- Cooperated with manufacturers, owner and main investor in identifying costly intra-industrial bottlenecks.
- Designed proprietary solutions for automating the influx logistics and yield assessment in designer hardwood flooring industry.

PROJECTS

Cloud Solution Provider | Docker, CentOS, NGINX; Gitea, Funkwhale, Jellyfin, Virtualbox

Nov 2021 - Present

- Engineered solution for hosting, streaming and online computing serving more than 50 users daily.
- Orchestrated no-downtime microservice architecture on enterprise-grade hardware in a custom network topology.

GTK+4 Frontend for ZX2C4's Password Manager | C, UNIX, GTK+

Nov 2021 - Jan 2022

- Created a secure, GNOME-based, user-friendly GUI desktop application for the UNIX Password Manager.

Self-managed IoT System | Python, Flask, REST, Snowboy

Oct 2019 - Jan 2020

- Implemented and maintained a voice-driven device for light and music control enabling users to control room ambience.

USB Arduino-based Portable Oscilloscope | C, C++, Android, Arduino, AVR

Mar 2018 - Dec 2018

- Developed device enabling waveform analysis on-the-go paired with smart device with custom-developed application.

ADDITIONAL SKILLS

Computer Languages

x86ASM, Rust, Go, C#, Objective-C, Java, Javascript, Typescript, Python, Kotlin, Bash, Matlab, Haskell, Nim, Lua, Scheme

Technologies & Frameworks

HTML, CSS, React, Flask, Node.js, JQuery, HTTP, NumPy, SciPy, Keras, GTK, Qt, Git, MySQL, PostgreSQL, Linux, Java, Kotlin,

Manufacturing

AutoCAD, KiCad, EagleCad, Solidworks, Reductive and Additive Methods, IR Analysis