

01 ABOUT

Experienced in mechatronics solutions that integrate many technologies, from firmware and electronics to software and machines.

I value teamwork, a positive and collaborative working environment, continuous learning and knowledge sharing.

I believe that automated processes and smarter machines make life easier, more convenient and safer, in industry and in daily life.

02 EXPERIENCE

Nov 2024 – present Tallinn, Estonia / Barcelona, Spain

IoT engineer at Mapit IoT

Mobility IoT firmware, production test and fleet analytics: from MCU and cellular firmware and panel and end-of-line testers to fleet-wide failure root-causing across Mapit and OEM vendors.

C++ · FreeRTOS · LTE-M · CAN · Python · TinyML

Mar 2023 – Apr 2024 Tallinn, Estonia

Firmware engineer at Comodule

Micro-mobility IoT firmware integration with OEMs.

C · nRF · STM · BLE · CAN · CI/CD

Jan 2022 – Mar 2023 Tallinn, Estonia

Machine vision engineer at Ericsson

Development and support of machine vision applications for new product introduction (NPI).

Machine vision · Cognex · OpenCV · Modbus · ML

Apr 2024 – Jan 2025, Jul 2020 – Jan 2022
Tallinn, Estonia / Hoogerheide, Netherlands

Mechatronics engineer at PactiveMotion · Freelance / B2B

Whole-system design of a motion simulation platform for gamers and people with disabilities, for a motor driver company.

C++ · Python · ROS · CANopen · PID

Sep 2017 – Feb 2020 Tallinn, Estonia

Mechatronics engineer at Nordic Automation Systems

Developed interactive production test equipment and GUIs to test RF, digital and analogue inputs and outputs.

LabVIEW · Python · C · myRIO · FPGA

Sep 2013 – Aug 2016 Cairo, Egypt

Mechatronics R&D engineer at Kepler Industries

Robotics design, simulation and analysis: omni-wheel design and automated goalkeeper projects.

SolidWorks · LabVIEW · PID

03 EDUCATION

Sep 2016 – Jun 2019 Tallinn

M.Sc. Mechatronics at Tallinn University of Technology

Master's thesis (digikogu.taltech.ee)

Sep 2011 – May 2016 Cairo

B.Sc. Mechatronics at Higher Technological Institute

04 TECH STACK

APPS AND WEB

Qt · React · React Native · Flutter · Tauri · Unity · Node.js · FastAPI · Flask · Django · Vite · Webpack · Bun · npm and pnpm

BUSES

CAN FD and OBD · CANopen · Modbus · UART · SPI · I2C · I3C

CLOUD

Firebase · AWS · Google Cloud · Azure · Vercel · SaaS

DATA AND MONITORING

NumPy · Pandas · SciPy · Matplotlib · Plotly · Grafana · InfluxDB · Amazon DynamoDB · Snowflake

CAD AND DESIGN

SolidWorks · Onshape · KiCad · EAGLE · Figma · Adobe XD · Canva

FIRMWARE

Bootloaders · Secure boot · FOTA and delta FOTA · MEMS sensors · BMS

HARDWARE AND TEST

myRIO · FPGA · Raspberry Pi · Power electronics · Factory testing · Bench tooling for tests and verification · Unit testing · Integration testing

NETWORKING AND PROTOCOLS

TCP/IP · MQTT · Mosquitto · CoAP · SSL/TLS · Protobuf · AT commands · REST APIs · 3GPP cellular protocols

WIRELESS

BLE · Wi-Fi · Cellular (LTE, CAT-M) · GNSS · NFC · LoRaWAN · Zigbee

LANGUAGES

Python · C · C++ · LabVIEW · Rust · TypeScript · JavaScript · HTML · CSS · Shell scripting · Markdown · C# · .NET · Java

EMBEDDED AND FIRMWARE

Arm Cortex-M · RISC-V · nRF · STM · ESP · FreeRTOS · Zephyr · CMSIS · Microchip · Texas Instruments · NXP · Arduino · PlatformIO

VISION AND ML

Machine vision · Computer vision · Cognex · OpenCV ·

YOLO · Deep learning · TinyML · PyTorch · TensorFlow · Keras · scikit-learn

05 MORE

LANGUAGES

Arabic (native) · English (fluent) · Estonian (basics) · ROS · PID · Control methods · Motor drivers · Encoders · Spanish (basics)

CONTROL, AUTOMATION AND ROBOTICS

TIA Portal · CODESYS · RobotStudio · Node-RED · Home Assistant

STRENGTHS

Time management · Critical thinking · Problem solving · Research · Planning

TOOLS

Git · GitHub · GitLab · Bitbucket · Linux · Docker · CI/CD

HOBBIES

(GitHub Actions) · Make · CMake · MATLAB · Anaconda · Squash · Padel · Football · Hiking · Board games

REFERENCES

Available on request.

re-resume.web.app