ALEKSANDRS SEVASTJANOVS

C++ developer, embedded systems designer, electronics engineer

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Work Experience

Embedded Systems Developer, *Plockmatic SIA*, 2020 - now

- Optical mark detection cross platform library development.
  - Building the optical mark recogntition algorithms from scratch using c++ and cmake.
  - The library is made to be sensor agnostic.
  - PC application that can be used for batch testing and debugging is also developed.
- Firmware and software development for paper document finishing machines. From STM32F series MCU to linux boards such as beabgle bone and raspberry pi.
- GUI application using Qt framework for embedded platforms.

Embedded Systems Developer, *Honeywell, spol. s r.o.*, 2019 - 2019

- Firmware development for BLE enabled wireless MCU as a part of smart audio hearing protection device.

Electronics Engineer, *Atlas Dynamics SIA*, 2017 - 2019

- Testing and analyzing performance of unmanned aerial vehicles.
- Coordinating the development process of UAV subsystems.
- Communicating with suppliers and manufacturers.
- Electronics Speed Controller for BLDC motors of UAV.
- Electronically controlled load testing device for ESC.
- Integration of laser distance sensors.
- Base station: From concept to a working solution.
- Involvement in drone and base station battery system development.
- Involvement in Flight Controller development, both on hardware and software levels, as well as test equipment for it.

Electronics Engineer, *Escape Room SIA*, 2016 - 2017

- Fully designed and developed an interactive system of sensor-based games and mechanical contraptions.
- Implemented stepper motor control, audio signal processing with DSP, heart rate monitor sensors, motion sensor input on STM32F429 MCU.
- Full cycle of PCB development from schematics to produced boards.
- Implementation of a custom serial communication protocol based on RS485 hardware.

Electronics Engineer, *Silmor SIA*, 2015 - 2016

- Full-cycle design of membrane switch keyboards.
- Communication with clients, working out technical requirements.

- Production overseeing and consulting, preparing instructions for manufacturing.
- Communicating with suppliers, ordering materials and components.
- Developing new types of products and introducing new technologies.

Electronics Engineer Internship, *SV Tehs SIA*, 2010 - 2010

- PCB design of RF transceiver device, drawing IC pads, and preparing the project to meet standards for mass production.
- Production quality testing, RF IC components output signal testing.

Education

University of Southern Denmark, *MSc in Robotics*, 2013 - 2014

Subjects included:

- Embedded Systems, projects: "Inverted pendulum with PID control – final project", "Colour recognizing sorting machine", included design of schematics, PCB, mechanical parts and firmware
- Artificial intelligence, final project "Sokoban puzzle solving with a physical robot". Project earned second place in university competition
- Mechanics, theory and design using Autodesk Inventor Also subjects: Robotics, Computer Vision, Multivariate statistics
- Computer Vision basics using OpenCV

Riga Technical University, *BSc in Electronics Engineering*, 2010 - 2013

- Dissertation project: "Li-Ion battery capacity testing and charging device" included design and implementation of hardware prototype, firmware, testing battery units and analysing the results. Grade: 9 out of 10.

University of Pardubice, *Erasmus student exchange period*, 2012

Personal skills

- Fluent in: English, Russian and Latvian, Beginner in Czech and German
- Enjoys 3D modelling and 3D printing as a hobby
- Driving license since 2009