

Experience

iRobot (Authorized Service Centre)

Riga, Latvia

DEVELOPER

May 2016 - Present

- Completely moved the previous version of the service program written in .NET to LEMP stack. Expanded the program with warehouse management, maintenance, status, etc. modules.
- Communicated with iRobot's household robots over a serial communication interface. Stored the tests and black boxes of each robot in a database and analysed the data for monthly reports.
- Programmed an easily extendable web application for outputting various emotions on an LED matrix embedded in a robot mask. Used ESP8266 as the webserver and the controller of the matrix.
- Tools: virtualization (kvm, qemu, iommu, vfio), ansible, +tools used at Adevo.

IECS (Institute of Electronics and Computer Science)

Riga, Latvia

INTERN

December 2016 - March 2017

- Worked on a localization problem of the Mini Grand Cooperative Challenge objects (model cars, track) where a single, expensive camera had to be substituted with a cluster of cheaper, lower performing cameras, thus reducing the expenses and increasing the field of view.
- Managed to acquire the accurate positions of the model car and track LED markers from the data stream using OpenCV library.
- Tools: KiCAD, Onshape, OpenCV.

Adevo

Riga, Latvia

LEAD BACKEND DEVELOPER

October 2014 - April 2016

- Developed a real-time, location based social engagement platform for mobile network operators on Android, using Java and SQLite.
- Administered UNIX-like workstations and servers for a team of 20+ designers and developers.
- Programmed and delivered two web projects skorstensgaard.dk and technicafootball.com/ which were running on LEMP stack.
- Managed a team of two PHP developers using agile & kanban, as well as incorporated tools like git and vagrant into the workflow.
- Tools: PHP7, Symfony and Laravel packages, MariaDB, Nginx, PHPUnit, git, Vagrant, TravisCI, Gulp, node.js, a handful of vertically scaled Linux servers.

Gandrs

Riga, Latvia

FULL-STACK DEVELOPER

April 2013 - September 2014

- Developed gandrs.lv - one of the largest e-commerce platforms in the Baltics for outdoor activities.
- Delivered new modules and internal, external integrations, e.g., a QR code based authorization system, an API for online catalogues.
- Improved the existing PHP framework based on Kohana and CodeIgniter to increase security and maintainability.
- Tools: Linux, Apache, Nginx, vertical scaling, MySQL, sqlite, PHP5.6, CodeIgniter / Kohana, SCSS, CSS3, vanilla JS, HTML5, SVN.

Accenture

Riga, Latvia

DEVOPS ENGINEER

December 2012 - March 2013

- Configured 30+ Solaris (UNIX) environments for enterprise, heavy load JavaEE applications, using tools like Jenkins and SVN.
- Configured a European Union Taxation and Customs Union project, installed some of the applications on client's servers.
- Collaborated with international (Latvia, USA, India) development teams on product delivery, e.g., requirement verification, application installation.
- Tools: Unix (Solaris), Java EE, Hudson, SVN, ClearCase, ClearQuest.

Reach.ly

Riga, Latvia

INTERN

January 2012 - May 2012

- Solved the initial problems using Forward-Backward, Viterbi and Baum-Welch algorithms on experimental models programmed in Python.
- Implemented some concepts of the HMM into a big-data mining mathematical model for finding specific phrases in Twitter tweets.

Education

Chalmers University of Technology

M.Sc. IN COMPUTER SCIENCE

Gothenburg, Sweden

September 2018 - July 2020

University of Latvia

B.S. IN MATHEMATICS

Riga, Latvia

September 2008 - July 2012

- Received a Scholarship for Academic Excellence, given to the top 5% of students.
- Received a Certificate of Recognition for my bachelor's thesis on Hidden Markov Models.

Riga Technical University

SELECTIVE COURSES IN ELECTRONICS

Riga, Latvia

September 2017 - January 2018

- Courses in Regulation Theory and Digital Circuits.

Extracurricular Activity

Robotu Skola (Robotics Club)

MEMBER

Riga, Latvia

November 2014 - Present

- Transformed an iRobot Roomba into a sumo robot, designed mechanical parts for 3D printing and laser-cutting using OnShape. Programmed the strategies on Arduino Micro and controlled the robot via the Open Interface API.
- Built a mini sumo robot. Designed the pcb using KiCAD, conducted thorough research on passive and active components and the digital circuit as a whole. Incorporated external modules, for example, an IR start module and proximity sensor modules. Programmed the robot using C and open-source libraries on an ATmega microcontroller.
- Built another mini sumo completely from scratch, this time embedding the modules on the pcb and programming custom implementations of libraries and protocols. For example, I modified an RC-5 decoding library for ATmega8A, to communicate with the robot over IR.
- Bronze medal at LRC 15', 8th place at Robotex 14'.

Latvia Robotics Championship (LRC)

REFEREE & ORGANIZER

Riga, Latvia

March 2015, 2016, 2017

- Volunteered as a referee for the mini sumo category at LRC 15' and 16'.
- Organized the 10th annual LRC 17' with more than 300 robots from the Baltic States competing in seven categories.
- Gained expertise in streaming the event to social sites using multiple mobile and stationary input sources - IP cameras, mobile phone cameras, microphones.

Open-source projects

DEVELOPER

Riga, Latvia

July 2015 - Present

- Currently participating in The Eudypsula Challenge, which is a hands-on series of programming exercises for the Linux kernel. My goal is to become an approved Linux kernel developer and maintain a subsystem. Currently programming an out-of-tree kernel module for USB devices.
- Developed a customizable white-label graphical database management tool named propeller. The persistence layer was built around Propel, a popular ORM for PHP. It allowed implementing propeller easily into other projects, without spending much time in configuration.
- Managed to implement propeller as the backend system for a well-known car repair company in Denmark while working for Adevo.

Hackathons

DEVELOPER

Latvia, Estonia

July 2015 - Present

- Worked in a team of six during the Garage48 Hardware & Arts Hackathon. We managed to build a working prototype of an autonomous tennis ball collector robot. I programmed a web-based LEMP application for controlling the robot. Configured the main server to handle web requests and wrote shell scripts for communicating with the robot via the Open Interface API.
- Programmed a voice-controlled system for a mobility-as-a-service platform during the Garage48 SpaceTech: Integrated Applications Hackathon. The system was able to capture users' voice inputs using Amazon Echo Dot and map the parsed words to coordinates acquired via HERE navigation services. Then the system made a RESTful HTTP request to an AWS Backendless server, which was responsible for controlling the physical device.
- Won the n*soria & Garmin Riga Hackathon and successfully delivered a gamification platform for corporate clients, which used data provided by activity trackers.