

Vsevolod Lobko

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About me

20+ years of experience in software development and related areas. Working in both software development and devops teams. Doing a lot of intra- and inter- team communications, writing and reviewing specs and requirements. Doing my own tasks and leading others.

Have hands-on experience or good exposure to most current technologies, local development, cloud and on-prem deployment. Do continuous self-education to keep relevant.

Can work on any level of information technologies stack, from electronics and networking to product management.

Work experience

Nov 2016 — Now **Principal Software Engineer**

DataRobot (datarobot.com)

- Improvements in real-time prediction infrastructure for production readiness (python, ansible, terraform, AWS EC2, AWS EKS)
- Improvements in on-premise application deployment automation (python, ansible, docker, kubernetes, helm)
- Improvements in application configuration management (python, bash)
- Improvements in application distribution mechanisms (kubernetes, helm, docker)
- Unification of application runtime environment (python, docker, bash)
- Write or participate in review of technical specifications for most development projects
- Helping to choose technology and software components for various internal projects
- Performing assessments on architectural solutions

Aug 2014 — Oct 2016 **Python Developer and Architect**

AlertSite by SmartBear (smartbear.com)

- Rebuild of legacy data collection system and live migration without data loss and service interruption (MySQL, RabbitMQ, python/asyncio based ssh client farm)
- Migration of legacy infrastructure to docker on AWS (docker, ansible, python, AWS RDS, AWS CF)
- Support and refactoring of massive legacy code-base (perl, bash, MySQL)
- Live migration of large MySQL multi-host database to Amazon RDS (AWS RDS)

April 2013 — July 2014 **Senior Python Developer**

Online services company (Employment details covered by NDA)

- Implementation of statistics and analytics system from design to production

(PostgreSQL, MongoDB, python)

- Development of backend features for web-based online services system (Python, Tornado, MongoDB, Redis)
 - Implementation of testing framework and initial test suite for critical legacy code (tornado.testing, nose, selenium webdriver)
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April 2001 — March 2013 **CTO**

IPNET Internet Service Provider (www.ip.net.ua)

- Development and implementation of network architecture (Ethernet, TCP/IP, OSPF, MPLS, BGP)
 - Development and implementation of software architecture (TCL, PHP, Python, Twisted, PostgreSQL, Memcache)
 - Requirements gathering from internal customers
 - Building and management of development and operations teams
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March 2000 — March 2001 **CTO**

IMT Telecommunication Company

- Design and implementation of hardware and software solution for IVR service (C, TCL, XOTCL)
 - Design and implementation of billing system (TCL, PostgreSQL, PHP)
 - Building of development and operations team
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January 1997 — February 2000 **System Administrator, Developer**

Concern Alex ISP department (alex-ua.com)

- Design and implementation of Radius AAA framework with realtime database lookups, multi-login detection (TCL, C, PostgreSQL)
 - Design and implementation of Billing system (TCL, PHP, PostgreSQL)
 - L2/L3 user support
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April 1995 — December 1996 **Software Developer**

State Property Fund of Ukraine (www.spfu.gov.ua)

- Development of Fox Pro data entry application (Fox Pro, SQL)
 - Development of import scripts for Informix Database (Perl, SQL, SCO Unix)
 - Support and administration of mail and data collection system (UUCP, Linux)
 - User support
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External projects

2013 — 2019 **Technical advisor**

Ecoisme GreenTech company (ecoisme.com)

- Assistance in decision making in technology, hardware and software areas
 - Help with hiring
 - Participation in Go To Market strategy sessions
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2000 — 2013 **Technical advisor and architecture lead**

ITCG Web and Advertising Agency (itcg.net.ua)

- Decision making in technology and software areas
- Implementing core components of infrastructure (PHP, Python, Twisted, PostgreSQL, Memcache)

Open-Source Work

I have contributions to multiple well known open-source projects:

- PostgreSQL (<https://www.postgresql.org/>)
Improved UTF-8 encoding handling for pl/tcl module
- FreeBSD (<https://www.freebsd.org/>)
Implemented additional modules for IP Firewall, Geom and NetGraph subsystems
- NetBSD (<https://www.netbsd.org/>)
Did initial port to ADM5120 SoC
- VMWare open-source tools (<https://github.com/vmware/open-vm-tools>)
Fixed some inconsistencies in mounted volumes handling
- Psycopg (<https://www.psycopg.org/>) - library for interfacing PostgreSQL from Python
Contributed to configuration and connection handling code

Hobby Projects

2008 WowWee Robopanda Reversing (<https://sevik.org/robopanda/>)

Very cute toy with cartridge based content system. But WowWee did just 2 of them in English only. So It was a challenge to make some custom content.

To make this happen I have implemented an FPGA based SPI cartridge emulator with full execution tracing. Used this emulator to reverse bytecode for the main engine and motion controller. Implemented disassembler, emulator and assembler for both engines. Did a lot of emu-to-traces comparison runs to get details right.

Did reverse engineering for audio codec format and implemented audioencoder.

But no real content was created as a result as the content itself is the hardest part :)

<https://github.com/sevikkk/robopanda>

2011 AI Challenge (<http://aichallenge.org/>)

Google sponsored contest in AI programming. To make things entertaining I did it in Go language, and this was my first real project in Go. I have not got into the top 100, but 182 out of 8000 global rank is good enough for a 2 week project as for me (many of top users started in beta stage - 2-3 months before finals). I got 6 out of 58 rank for Go submissions, and 12 out of 210 Ukraine participants.

2012 MonsteRap 3D printer (<https://github.com/sevikkk/VP2motion>)

It was new and shiny and nobody in Ukraine basically had it :)

So I've started with Proxxon desktop Mill with CNC upgrade, attached MakerBot extruder to it and run Marlin. But it was extremely slow, as the lead screw system required an extra high step rate.

So FPGA based motion control was implemented. To make it a fully standalone embedded 6502 processor was used with software implemented in C using SDCC and NES16 runtime :)

But it was still slow and small, so a Mendel90 based frame was built and brains moved to the new body.

(Active) ValuRap 3D printer (<https://github.com/sevikkk/valurap>)

The old printer just works so it becomes boring :) Also 200x200mm work area is not enough for some projects.

So new journey begins, lead screws for Z, linear rails for X and Y, IDEX kinematic for independent dual-extrusion, E3D extruders, vision based bed leveling and extruders alignment, Orange PI (2 of them actually) as main brains, STM32 controllers on custom PCB for all heating control, FPGA (of course) for motion control.

So I've got hardware cubic spline motion control, FreeRTOS based STM32 software, OpenCV for vision, numpy and pandas for offline motion planning, VueJS based web control panel.

Hardware is fully modeled in FreeCAD with python scripting for frame parts positioning. So it's a lot of fun and it's still in progress :)

Education

1992 - 1998 Master of Computer Science (Computer Aided Design Systems)

Faculty of Electronics

National Technical University of Ukraine "Kyiv Polytechnic Institute", Kiev, Ukraine

1988 - 1992 Bachelor of Computer Science

(Electronic computers, devices and equipment)

Kiev Optical and Mechanical College, Kiev, Ukraine
