

# Andrew Shadura

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## Skills

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### Embedded development

I participated in development of many embedded devices, based mostly on very limited hardware platforms. Work on those projects required me to become familiar with oscilloscope and logic analysers, and to learn how to analyse and troubleshoot hardware issues. Badly-documented chips sometimes demanded certain research work to be done to determine how to program them properly. I have good knowledge of processor architectures (most notably, Intel x86 and 8051, AVR) in this area, and have some practice developing for CPLD and FPGA in VHDL.

### Linux

I started using Linux in 2004 using Mandrake-derived distribution called ALT Linux, and switched to Debian two years later, and have been using Linux only on my computers since 2007. In 2008, I started contributing to Debian by filing bugs, providing patches, later — by maintaining packages. I've become a Debian Developer in March 2013, and currently maintain or co-maintain about 30 packages, including a core package, *ifupdown*, a network configuration tool. I have also contributed to Linux kernel, fixing a bug in 3c59x network card driver.

**C**  
I have strong C skills, and have a great experience in programming using it on multiple platforms. I have good knowledge of C99 standard and best programming practices.

### Display systems

During my work at BelDisplayTech, I've gained good knowledge of analogue and digital video standards: PAL and NTSC, LVDS and TMDS, and have experience using video processing chips of Analog Devices, Philips/NXP, TechWell and Realtek.

### Communications and networking

I have good knowledge of various communication protocols, from I<sup>2</sup>C and SPI through RS-232 and RS-485 to complex ones like USB (and USB HID). I also have good experience working with networks, from Ethernet MAC level to application-level protocols, and have written implementations of some protocols like FTP and HTTP. Additionally, I'm familiar with the newest generation of Internet protocols, IPv6, and have successfully deployed it at a couple of networks.

### UNIX tools

Since I've used and developed on Linux for a long time, my knowledge of UNIX environment is high, and I'm expert in using tools like make, shell, awk, m4. I'm an experienced user of version control systems: CVS, Subversion, Mercurial and Git.

## Education

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**Belarusian State University of Informatics and Radioelectronics** **Minsk, Belarus**  
*Master's degree, Computer science* 2009–2010

**Belarusian State University of Informatics and Radioelectronics** **Minsk, Belarus**  
*Engineer, Computers Machines, Networks and Systems* 2004–2009

Subjects included basics of analogue and digital electronics, computer architecture, cryptography, OS architecture, computer networks and distributed systems.

Graduation project involved the development of firmware for FPGA-based controller of dynamic backlight for an LCD, using VHDL.

## Employment history

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### **Alcatel-Lucent Slovakia, a.s.**

*Software Engineer*

**Bratislava, Slovakia**

*Feb 2014–present*

### **REC Slovakia, s.r.o.**

*Software Engineer*

**Žilina, Slovakia**

*Jan 2013–Dec 2013*

I worked as subcontractor for NXP Semiconductors and few other customers, as well as on internal projects.

As part of my duties, I helped porting BSP from a proprietary compiler to GCC, cross-compiling software for Raspbian/armhf, and developing firmware for smart cards. Latter was done as a part of NXP Semiconductors project, JavaCard Open Platform.

At NXP, I had to implement a subset of JCOP API in the smart card firmware, adjust existing implementation to meet specification requirements strictly, refactor code to reach maximum ISO C and MISRA C compliance. I have been working in a small team of engineers within a bigger customer's team with frequent communication with the rest of the project distributed across customer's sites.

### **EDM, s.r.o.**

*Software Designer*

**Nižná, Slovakia**

*Nov 2011–Dec 2012*

I took charge in developing firmware for a book binding machine for a foreign customer. I contributed some key work in re-architecture of the firmware's design to make it flexible and adaptive to changing hardware parameters, and later have worked on implementing customer's requirements. I worked in a small team of developers, and had to communicate with mechanical engineers constantly, and to perform tests on real hardware. As a part of job, I've created a C framework aimed at making it easier to develop real-time applications with STM32's Cortex-M3 processors.

Also, my job was here to maintain a Debian GNU/Linux-based server.

As a personal achievement, I managed to convince colleagues to abandon Subversion VCS for most uses, and to switch to Mercurial, which helped us to improve our workflows significantly.

### **Belarusian State University of Informatics and Radioelectronics**

*Teaching Assistant*

**Minsk, Belarus**

*Sep 2009–Jul 2011*

I've been teaching students the basics of network technologies (OSI model, TCP/IP stack, IPv6), system administration, digital schematics and computer architecture. As part of my work at the Computers Department of the university, I've deployed IPv6 on the department's local network. Also, I participated in the development and support of the on-line students evaluation system, and administered a Debian GNU/Linux server used for that purpose.

This job has helped me to improve my communication skills, and taught me how to transfer knowledge to others effectively.

### **BelDisplayTech, Ltd**

*Software Developer*

**Minsk, Belarus**

*2007–Oct 2011*

I was involved in embedded development with devices based on AVR and 8051 processor families. Mostly, these devices were display systems: display controllers, display backlight controllers, image processing devices. Few projects involved working with embedded Linux on MIPS and ARM and required knowledge or OpenEmbedded and Emdebian. Most of our devices were shipped with end-user graphical front-ends; to write them, I had to learn how to use GTK+ and Tcl/Tk. As a side job, I also administered a local Debian GNU/Linux server and our LAN infrastructure.

### **New Analytical Systems, Ltd**

*Software Developer*

**Minsk, Belarus**

*Nov 2005–May 2007*

I've worked at NAS Ltd part-time during my university studies. I helped integrating their chromatographic software with customers' systems, and gained some experience working with SQL. Later I started working on the application core, and helped developing cross-platform GUI widgets in Object Pascal (targetting Delphi, Kylix and Free Pascal).

## Languages

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**Belarusian:** Native (bilingual)

**Slovak:** Fluent

**Russian:** Native (bilingual)

**German:** Basic

**English:** Advanced

## Miscellaneous

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I've participated in Google Summer of Code twice, in 2008 (for Atheme.org) and in 2010 (for Tcl/Tk). I'm a cyclist, and OpenStreetMap contributor, and these two hobbies of mine match perfectly.

I'm a member of two organisations (in Belarus and Slovakia) promoting cycling and mobility in cities.

Detailed list of projects I have participated in available on request.