

# Ilya Stolyarov

[ila.embsys@gmail.com](mailto:ila.embsys@gmail.com)

I am a programmer of embedded systems firmwares.

- I have experience in implementation by datasheets and electrical schemes of drivers for onboard chips or attached devices like sensors, servo-motors, etc. Familiar with interfaces like UART, CAN, USB, SPI, I2C, PWM, FMC. I have experience with network protocols like OpenCAN, Modbus, Ethernet, TCP-IP...
- I prefer to use Zephyr RTOS and know how to configure it including modules, board DTS files, drivers, KConfig parameters. I wide use tools like Git, Make, CMake, GCC/Clang.
- I have experience of hardware debugging by using oscilloscopes and logic analyzers. I can catch software bugs with SystemView RTOS analyzer and sigrok protocols decoder.
- I have knowledge in how Linux work and ready to work with it. The knowledge like how is work together bootloader, dts, kernel, initramfs, file systems, HFS, mouniting, system tools, etc...
- I am experienced a little in FPGA programming. I learned it since studied at university. Have worked with Xilinx Spartan and Altera MAX boards. I have done the course project where I was programming JTAG TAP controller on Xilinx board. Also, I have done one more FPGA project on Altera board during the work experience.
- Also, I am ready to support developers environment and infrastructure since have experience with preparing build environment by Docker containers for a VSCode devcontainer usage or CI pipelines running (GitLab CI). I have experience in supporting Virtual Infrastructure of XenServer.
- At free time I like work on some of my pet projects. I am interested in IoT and learning for backend part, like Kubernetes infrastructure (k3s, storage provisioners, helm, etc...).
- I enjoy riding a bicycle in a forest or fun in riding a motorcycle gymkhana. I am In love with short kayak walkies. Ready to fun with windsurf, skates, snowboard and other similar activity.
- 8 year work experience, 28 years old, single: no wife, no child, no pets.

**Github** [ila-embsys](#)    **Telegram** [@IlyaStolyarov](#)    **LinkedIn** [ilyastolyarov](#)

## SKILLS

EMBEDDED DEVELOPMENT	C/C++, Zephyr RTOS, FreeRTOS, STM32, Stack only programming, GCC/Clang, Make, CMake, Linux
PERIPHERALS KNOWLEDGE	UART, CAN, USB, SPI, I2C, ADC, DAC, FMC, Timers
INDUSTRIAL PROTOCOLS	CANopen, Modbus, Ethernet, IP, TCP, UDP
EMBEDDED SYSTEMS DEBUGGING	Oscilloscope usage, Logic analyzers usage, SystemView, sigrok, Renode, Soldering
CI/CD	Docker, Docker Compose, Gitlab Pipelines, Github Actions
FPGA PROGRAMMING	Verilog/SystemVerilog, Altera, Xilinx, ModelSim, cocotb
SUPPORT TOOLS PROGRAMMING	Python, Perl, TypeScript, Bash, SQL, MariaDB, Docker, Debian Packaging, OpenBuildService
INFRASTRUCTURE SUPPORT	XenServer, TrueNAS, FreeRadius, LDAP, VMs, Containers, Portainer, MicroOS, MariaDB
IOT CLOUD INFRASTRUCTURE	Kubernetes resources, k3s, kubectI, helm, MQTT, HiveMQ
WEB-BASED APP PROTOTYPING	HTML, CSS, TypeScript, React, Rollup
COMMON	Git, GitLab, GitHub, Linux, Reading schematics, Datasheet exploring

## EXPERIENCE

## Embedded Software Engineer Jan 2014 - Present

Have been finished more than 20 commercial projects in embedded area including IoT.

- Pastilda - hardware password manager: STM32, ARM, Crypto Peripheral, SDIO, FatFS, FreeRTOS
- MTUTA - Telemetry of vending machines: ARM, FreeRTOS, USB, SD, SIMCom, GSM, Ethernet, FTP
- Audio recorder: ADC sampling, A-law coding, WAVE audio container, SD card writing.
- USB device monitoring and configuration: HID, CDC-ACM, Mass Storage, composite device.
- Distributed steering-actuator RT system: ADC sampling, position measure, human gesture system, CAN, CANopen, PWM.
- Gate valve controller: Zephyr RTOS, Modbus, M6800 bus driver, character display driver, UI
- GPS tracker for a training: Nordic, USB, HID, Mass storage
- Low latency protection system: FPGA, malfunction supervision.
- Graphical information display: Embedded Linux, custom board, U-Boot, Qt libraries.

## EDUCATION

### ITMO University

Jan 2016 - Jan 2018

Master - Design of Embedded Computing Systems and Systems on a Chip

### ITMO University

Jan 2012 - Jan 2016

Bachelor - Intelligent Technologies in Robotics

## LANGUAGES

English

*Near Fluent (B2-C1)*

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Russian

*Native Speaker*

## INTERESTS

### Programming

- Rust
  - Ada
  - OpenBuildService
  - IoT
  - Kubernetes
  - GitPod
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### Life

- Bicycle
- Motorcycle
- Short kayak walkies
- Skates
- Snowboard
- Windsurf
- Music theory
- Piano
- Guitar