

**Boris Vinogradov**  
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## 1 SOFTWARE DEVELOPER

10+ years of software development experience. Design and develop system and embedded software. Product integration and adaptation. Research in embedded, software and hardware complexes. Collaborate with Product Manager, Architects, and a talented group of engineers to build new voice features which add value to customers and to deliver a meaningful product.

## 2 QUALIFICATIONS

- Math in field linear algebra, statistics and probability theoria
- System design and applied computer science
- Creation system from scratch and build toolchains
- Languages: C++, C, Rust, Python, Java, Matlab, Go, Shell
- Libraries: STL, Boost, PyCurl, Tokio, Async-std, Tonic, GStreamer
- Protocols: TPC/IP, GRPC, RTP, WebRTC
- Formats: JSON, XML, Toml, Yaml
- Markup language: Markdown, L<sup>A</sup>T<sub>E</sub>X
- Build systems: Makefile, CMake, Cargo, Basel
- Inter-language communication: MATLAB-Rust, Python-C
- Logs/Metrics: Logger, Datadog
- OS's: MacOS, Linux, Windows, FreeRTOS

## 3 LANGUAGES

- Russian (Native)
- English (Upper Intermediate)
- Spanish (Elementary)
- Japan (Beginner)

## 4 EDUCATION AND COURCES

- Applied Information Science in Economics, Moscow Technological Institute, Bachelor Degree

## 5 SIGNIFICANT ACHIEVEMENTS AND PROJECTS

**My Projects:**

- Source code GitHub repository – <https://github.com/nisembedded>

- My blog – <https://nisembedded.github.io>

#### **Publications:**

D.N.Shloma, A.R. Egorov, B. G. Vinogradov, A. V. Protchenko — Improving of deployment system for special software products. Technika radiocommunication 1(24) 2015. ONIIP.

## **6 PROFESSIONAL EXPERIENCE**

### **TK Elevator Aug 2024 – Present**

- Development elevator related functionality
- Languages: C, C++, Python, Shell

### **Twilio Mar 2022 – Feb 2024** Software Engineer – Media Services

- Developed Twilio voice core server modules.
  - Developed internal metrics collection module.
  - Developed infrastructure connectivity for WebSocket-based clients.
  - Developed bidirectional media pipeline for media server.
  - Designing architecture and develop test suite for RTP connections.
  - Developed high-load test for media servers and other roles.
  - Developing Microservices in containerized environments based on k8s/AWS.
  - Testing and tuning services meet customer-facing SLAs.
- Languages: C, C++, Rust, Java, Python

### **Amazon/Ring NOV 2020 – MAR 2022** System software engineer

- Designed, bootstrapped firmware for new products.
  - Created Architecture, Design and PoC for new product.
  - Ported C++17 and Boost on baremetal hardware, fixed compiler related issues on RISC-V 64 system.
  - Investigated firmware optimization and device capabilities.
  - Optimized video/voice network performance on main line products.
  - Improved video bandwidth adaptation algorithm.
  - Design and implement autotune algorithm.
  - Created series of production tests for autotune algorithm.
- Languages: C, C++, Python

### **EPAM NOV 2018 – NOV 2020** Senior software engineer

- Setup and operate high throughput data pipelines to power the product.
  - Designed and developed communication software for audio/video calls with WebRTC.
  - Made internal Rust community more active and well-known: created demos and examples on how to use rust more efficiently, fixed issues with some internal admin tools (rust-based).
- Languages: C, C++, Rust, Python

**Promwad Electronics Designs NOV 2017 – NOV 2018** Software engineer

- Designed and developed embedded software for STB and smart TV.

Languages: C,C++,Java, Rust, Python

**Samsung Electronics / Samsung R&D FEB 2017 – AUG 2017** Software engineer

- Designed and developed software solutions.
- Technical analysis and code optimization for ARM architecture
- Created ARM Trust Zone security system applications, system library
- Created ARM Trust Zone ports for new devices

Languages: C,C++

**SymphonyTeleca JUL 2015 – JAN 2017** Principal software engineer

- Designed and developed embedded systems.
- Designed programming modules and Linux kernel developing.
- Analysed of system solutions and provided integration with full support.
- Developed system communication modules.
- Developed code generation utility and document generation utility for electronic document system.
- Developed Android for Auto bsp and support for CAN binding through bind service

Languages: C,C++,Java, VB, Python

**ONIIP OCT 2013 – JUL 2015** Software engineer

- Designed and developed internal high modular framework.
- Designed and developed code generator for upper speed, high accuracy developing.
- Designed communication protocols and high-level operations.
- Designed and developed of GNU/Linux based and bare metal systems.
- Developed communication modules and RPC subsystem.
- Developed system for transfer in high noise radio channels.
- Developed remote deploy and software update system.

Languages: C,C++, Python, Fortran, MATLAB, Scilab