

SABYRZHAN TASBOLATOV

[My research presentations](#)

Email: snovitoll@gmail.com

[My video presentations](#)

Location: Astana, Kazakhstan

[My Linux kernel activities](#)

[Github](#), [Linkedin](#), [YouTube](#)

Sr. SWE in Linux kernel, GPU, HPC, RF

Summary

- Senior Software Engineer focused on scientific, security, embedded, algorithmic and computational tasks with **10 years** of experience in projects, ranging from startups to enterprise. Prefer projects with C codebase.
- Proficient in C (8 y), Python (10 y), Rust, Go (5 y), C++ (2 y) / CUDA, Matlab, JS, Java [ordered by preference]
- Familiar with HPC supercomputer infrastructure: Infiniband, RDMA, RoCE, Linux RXE
- 4 years experience in wireless RF projects: GSM (osmocom), U-SIM (RAM/RFM), LTE(-A/Pro) decoding L1-L3
- Skilled in embedded SW dev: ZephyrOS, RPI, STM32, ESP32, basics of VHDL and FPGA
- Skilled in VM (1, 2 lvl), Kubernetes (w/ Helm), AWS (CF, EKS, network), DevOps, CI/CD
- Linux kernel development & exploitation, N-day CVE exploit development, pentest (OSCP, OSCE certified)

Experience [Darwin Neo Assets](#), Kazakhstan on-site

Senior SW Engineer (June 2022 - Jan 2024)

- System design and development of cryptocurrency trading system for 24/7 autonomous futures trading (1m kline, 1s agg. trades/ticks) with math. algorithms on Binance, Bybit futures markets (wss, REST, Redis, lockless trading). Operate with \$XXXXXX cash flow and >100% APY
- Co-operation and backtesting with mathematicians from Steklov Mathematical Institute via Jupyter notebooks. Custom hedging system to minimize unrealized PnL
- Optimization of the code complexity & performance (up to 52x times) via primitive data structs & parallel backtest on GPU CUDA (AMD vs Intel chips based server backtesting via Python CPU multiprocessing lib)

Freelance, remote, contract

RF SW Engineer (April 2022 - June 2023)

- ["ORM" project](#) - SW + HW with C (2K LOC), Matlab (8K LOC) to decode radio to human-readable format
- Signal capture (1 ms real-time) to eCPRI format via bladeRF driver, Xilinx RFSoc architecture research
- GNURadio programming with C++ for spectrogram analysis (1 ms subframe 2D analysis + OFDM power grid)
- Understanding and research of current mobile architecture (E-UTRAN, EPC, 5G NSA and SA with 5GC)

[Spectre Security Group](#), Kazakhstan, on-site

CTO, Co-founder (Sept 2020 - Aug 2022)

- Team of 6 top-notch security experts who are the most famous in Kazakhstan and Standoff CTF winners
- OTA-SMS (with SIMTracer), A-GPS spoofing, vulnerabilities research (Motorola C123 + osmocom, YateBTS)
- Company (15,000+ employees) red teaming (up to Windows AD), pentest & vulnerability assessment (MITRE)
- U-SIM filesystem storage for encrypted 2FA and Java applet development for RFM
- Linux kernel fuzzing on custom [syzkaller](#), Android kernels fuzzing & eBPF rootkits

[TSARKA](#), Astana, Kazakhstan, on-site

Embedded SW Engineer (Nov 2019 - Sept 2020)

- CVE-2019-2215: N-day Android binder UAF exploit development on Samsung device
- Linux driver modification for I2C serial comm. on NXP devboards. (SoC-to-SoC) on Yocto built OS

[Google](#), Sunnyvale, CA, USA, on-site, contract

Application Engineer (Nov 2018 - Nov 2019)

- DevOps for Google Search Appliance project with Python scripts for network Linux installation via PXE
- Bare metal servers' (< 500) maintenance and utilization, Linux kernel OOMKiller configuration
- systemd CVE-2018-16865, CVE-2018-16864, CVE-2018-16866 research & POC development in C

[EPAM Systems](#), Kazakhstan, on-site

Senior SW Engineer (June 2013 - Nov 2018)

- Participated in a variety of enterprise projects. Mostly gained a lot of experience with customer comm. per ITIL process. Understand solution & system architecture. Func/non-func requirements' and SLAs fulfillment
- k8s clusters' administration, architecture on Azure, AWS. Developed a fully automated CI/CD pipeline on Jenkins from scratch on Groovy. Configured multiple ENV for each k8s clusters, automated with Helm templates

[Genesys Telecommunications](#), remote, contract

SW Engineer (Nov 2014 - Jan 2018)

- Developed a customer-experience platform with NLP analytical features. Customer contacts to the company, depending on DTMF, customer profile and other input, is routed to the best agent fit. Tech: MongoDB, Python, NLP, sklearn, JS visualization of various analytical 2D charts
- Contributed to the service on Kafka for the multiple social channels integration (Facebook, Twitter, Apple)

Education

Bachelor of Science in Mechanical Engineering, KSTU, Kazakhstan (2011-2015), GPA: 3.5

Misc

OSCP (2019), OSCE (2020), Autopsy forensic, Linux kernel development course (LFD420) by Linux Foundation. Lecturing graduate students (max. 67 listeners) & technical leadership in small teams (up to 5 engineers)