



## Ivan Vozvakhov

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### CAREER SUMMARY

A highly accomplished embedded software engineer with an extensive background in ML and data science and a focus on connected smart home technologies. Played a foundational role in establishing VK's smart speakers development from absolute scratch. My innovative technical solutions have been pivotal in propelling VK into the Russian smart speaker's market, contributing to the shipment of 2+ million devices since 2019. Currently spearheading cutting-edge smart device ecosystems at MTS Devices. Open-source enthusiast and contributor.

### CAREER GROWTH AND KEY ACHIEVEMENTS

#### Giga

**2024 – 2025: Embedded Software Development Team Lead (Moscow, Russia)**

#### [MTS Devices](#)

**2024 – 2025: Embedded Software Development Team Lead (Moscow, Russia)**

- Led the Smart Router with Zigbee. Directed a high-performing team of 9 engineers to architect and launch an innovative home router on the RTL819x platform, enhanced with a Zigbee module (Telink9518) for seamless smart home integration. Achieved a successful Alpha test rollout, deploying 300+ units to real users across 12 regions in Russia, with a 92% user satisfaction rate.
- Pioneered the development of a custom agent for the Ezviz battery Camera for MTS Smart Home, orchestrating its integration into the [Ivideon](#) video platform.
- Spearheaded the creation of a next-gen prototype on BTv5 for BLE-audio, collaborating directly with Realtek to push the boundaries of low-power audio streaming. Successfully ported a lightweight language model (LLM) for local execution on single-board computers, achieving a 40ms response time.

#### VK / Mail.Ru Group

[About VK / Mail.Ru Group](#): Russia's second largest internet company developing the leading internet communications and entertainment platform in CIS/Eastern Europe. VK reaches more than 95% of the Russian internet audience monthly.

**2018 – 2024: Embedded Software Development Team Lead (Moscow, Russia)**

- Led the technical development of VK Capsula Neo, the first smart speaker outside China based on (RTOS) real-time operating system. It allowed VK to launch one of the cheapest smart speakers in the Russian market, surpassing 600k shipped units in 2023.

- Consistently drove cost-efficiency, one of VK's smart devices' key competitive advantages, by building multiple solutions replacing more costly proprietary ones, for example:
  - Voice Quality Enhancement to replace the solution by [Fraunhofer University](#) (saved 1 mn EUR on licenses in 2023);
  - digital amplifier to replace the software sound modifying solution by Bamboo (saved 400,000 USD since the release of Mini);
  - alternative integrated circuits, microphones, and other parts with software support (saved around 420,000 USD annually since 2022).
- Built multiple configurations of the Mini and Neo smart speakers for different hardware platforms (based on different chips, wi-fi modules, and other equipment) to ensure independence from a single vendor. This allowed VK's Smart Devices to operate smoothly during the COVID-19 chips shortage.
- Led the technical integration with Spotify, which made Capsula the [first](#) Russian smart speaker to support Spotify Connect.
- Led technical collaboration with multiple vendors to ensure their hardware and software's compatibility with VK's smart devices. Identified and reported multiple critical bugs that potentially affected millions of devices worldwide.
- Led the development of next-generation [Capsula Pro](#) with a display and Smart Home management platform.

**2017 – 2018: intern and data analyst at [MyTarget](#), a self-service ad platform by VK / Mail.Ru Group that covers 96% of the Russian market**

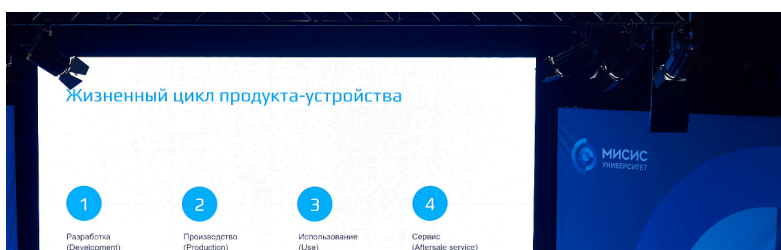
- Built an ML model to successfully identify Mail.Ru Group's services' audience potentially interested in using taxi services. As a result, the audience of CityMobil, Mail.Ru Group's taxi aggregator, grew by up to 10%.
- Build a mathematical model for Aviasales, a travel metasearch platform with 15M+ monthly users, identifying potential travelers among users of Mail.Ru Group's ecosystem and forecasting their travel patterns.
- Analyzed the audience of [Magnit](#), Russia's number one food retailer by the number of stores, and recommended optimal locations for building new stores.

## TEACHING AND STUDENTS' SUPERVISION

**2022 – present:** teaches a tuition-free C++ Programming [course](#) for students of Bauman Moscow State Technical University.

**2021 – 2022:** taught mathematics, physics, and information technologies to high school students at [the Physics and Technology School](#) of the Moscow Institute of Physics and Technology.

## PUBLIC SPEAKING AND PUBLICATIONS



**2024:** gave a [public talk](#) about product development cycle,

software creation tools, and competencies necessary for a career in the field of modern technologies at the award ceremony of the Cognitive Technologies Olympiad for Senior School Students (6,300 views).

**2023:** spoke about software development for non-standard devices in the [Yet Another Mobile Party stream](#) for iOS and Android developers organized by Russia's largest internet company Yandex.

**2023:** co-authored the presentation about ensuring reliability and maintainability in VK smart speakers for [RAMS 2023](#).

**2022:** co-authored the article [Moving Objects Tracking Method Based on Discharged Optical Flow](#) published in the proceedings of the 2022 4th International Youth Conference on Radio Electronics, Electrical and Power Engineering ([REEPE](#)).

**2022:** co-authored the presentation about statistical process control as a tool for VK Capsula smart speakers sustainable manufacturing process for [ESREL 2022](#).

## OPEN SOURCE CONTRIBUTIONS

GitHub profile: <https://github.com/vozvivan>

## AWARDS AND OTHER RECOGNITION



**2021:** was featured in the 2020 Mail.Ru Group [annual report](#) (page 64) among the company's employees who had made the most significant contribution to the business.

**2021:** got the Mail.Ru Group People Award for launching Mini smart speaker in the **Product of the Year** nomination.

**2020:** got the Mail.Ru Group People Award for launching Capsula smart speaker in the **Release of the Year** nomination.

## EDUCATION

**2020 – present:** postgraduate studies in information security, Moscow Institute of Physics and Technology

**2014 – 2020:** Master of Science, Information systems and Telecommunications, Bauman Moscow State Technical University (graduated Magna Cum Laude)