

Alex Vanin

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About me

Birth Date 8 Aug. 1994
Interests Computer Networks, Distributed Systems, Self-Hosted Infrastructure
Languages Russian – native, English – advanced, Japanese – low intermediate (JLPT N4, Jan. 2016)

Education

2012 – 2016 Bachelor's degree. ITMO University, Faculty of Software Engineering and Computer Systems. Average grade: 4.9 / 5.0 (GPA 3.9 / 4.0).
2016 – 2018 Master's degree. ITMO University, Faculty of Software Engineering and Computer Systems. Average grade: 5.0 / 5.0 (GPA 4.0 / 4.0).

Work Experience

Nov. 2016 – Sept. 2018 [Research Institute Masshtab](#): Software Engineer. Built fault-tolerant firewall cluster setup based on VRRP. Contributed to firewall CLI. Worked with DPDK and Elbrus CPUs.
Sept. 2018 – Aug. 2022 [Morphbits](#) (NEO Saint Petersburg Competence Center): Researcher, Software Engineer, Team Lead. Developed distributed, decentralized object storage system with consensus-based control plane. Implemented S3 and HTTP protocol gateways.
Aug. 2022 – Jun. 2026 [YADRO](#): Software Engineer, Team Lead. Led development of S3 and HTTP protocol gateways, data path identity and access layers for object storage, integration with third-party tools (e.g., restic, rclone, geeseefs). Conducted knowledge-sharing sessions in my department.

Research Experience

Bachelor's thesis: *"Analysis of traffic models from various IP traffic generators"*. Analyzed the accuracy of network traffic generators and developed "Spectre", a stochastic traffic generator modeling the complex distribution of real-world network traffic.

Master's thesis: *"Aggregation of communication channels on top of the network layer of the OSI model considering QoS requirements"*. Designed an analytical model for network reconfiguration to achieve target QoS with multipath transport protocols.

Research at Morphbits: Improved data-distribution efficiency with the "Gossip" protocol and reduced data migration in decentralized P2P networks based on Ceph CRUSH algorithm.

Publications: Vanin A.B. Bogatyrev V.A Bogatyrev S.V. [Data Migration Rate of CRUSH-Based Distributed Object Storage with Dynamic Topology](#) // Communications in Computer and Information Science. – 2021
Vanin A.B. Bogatyrev V.A. [Push-gossip protocol efficiency with network topology propagation](#) // Majorov International Conference on Software Engineering and Computer Systems. – 2018
Vanin A.B. Sosnin V.V. [Streaming video transmission via OpenVPN tunnels](#) // Distributed Computer and Communication Networks: 20th International Conference, Proceedings. – 2017
Vanin A.B. Sosnin V.V [Analysis of the methodological error in the models of IP traffic generators](#). // Collection of theses and reports of the V Russian Congress of Young Scientists. – 2016

Technical Skills

I mostly write in **Go**. Advanced user of **Linux**, **Bash**, **Git**.

In my projects I also use **Python**, **Nginx**, sometimes **C**. Interested in **Zig** and **Rust**. I mostly use embedded key-value databases like **BoltDB**, but also have used **Redis**, **PostgreSQL**.

I use small simulation models to validate hypotheses when designing solutions. Experienced in building models with GPSS and NS-3 (MPI).

To manage my projects I build knowledge databases and canvas mind-maps in Obsidian. I self-host and administrate my Git and Mastodon instances.

Soft Skills

Led small groups of developers (up to 10 people). Taught university courses and mentored software engineering interns. Skilled at finding compromises and resolving conflicts without escalation.