Alexander **Bogdanov**

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Skills

Programming	Golang, Python, C++, C
Technologies	Linux, gRPC, Protobuf, Docker, Git, Terraform, Kubernetes

Experience

Nebius   *Belgrade, Serbia*
SOFTWARE ENGINEER   *Jul 2024 – Present*

- KubeVirt Integration and Automation
  - Architected KubeVirt testing infrastructure involving nested Kubernetes environments and complex networking, integrating automated CI/CD pipelines, and enabling reliable storage tests.
- Preemptible Instances
  - Designed and implemented platform controls for preemptible instances, enabling fine-grained access for external clients.
  - Implemented audit event generation for preemption operations to enhance security and visibility.
  - As a result of this work, preemptible instances are now available to external clients, allowing for much better capacity usage and profitability.
- Topology Resilience and Resource Optimization
  - Designed and configured topology spread constraints for pod placement, enhancing system resilience and fault tolerance across availability zones.
  - Collaborated on the event specification for resource shortage notifications, improving capacity planning and issue visibility.
- Monitoring and Alerting
  - Developed and optimized alerts for leader availability, GPU capacity, log integrity, and system health.
  - Improved proactive issue detection, with some alerts helping detect incidents before clients were impacted.
- API Development
  - Implemeted API endpoints for working with compute operations, allowing for monitoring of compute resources. They now represent 10% to 40% of all API calls.

Meta   *London, UK*
SOFTWARE ENGINEERING INTERN   *Jul 2022 – Oct 2022*

- Used Hack, React.js and GraphQL to implement new internal tool for searching for customer support cases, performing quick actions on them and displaying relevant data and pages, freeing tens of man-hours per day across the org.

Yandex   *Moscow, Russia*
SOFTWARE ENGINEERING INTERN   *Jul 2021 – Oct 2021*

- Developed Python gRPC client library to send requests to microservice management system to replace a separate executable, reducing request time by 85% and number of lines of code required to make requests by 50%.
- Reworked logging system, resulting in 1000 lines codebase size reduction, improving readability, decreasing complexity and providing new possibilities for enforcing thread safety, helping fix race condition in multiple unit tests.
- Introduced static code style checks for project with 50'000 lines of C++ code and refactored it to comply with new requirements.

Sibur   *Moscow, Russia*
SOFTWARE ENGINEERING INTERN   *Sep 2020 – Dec 2020*

- Proposed location and workday data gathering pipeline, getting data from more than 1500 employees. Prepared it for route finding algorithm using pandas. Created converter from algorithm output to pdf timetables using Python.
- Implemented Java library for easier calls to API that enabled automated updates of bus routes, eliminating whole workday of manual work every week.
- Created Java library for automation of calculations that were previously carried out in excel, removing human link from production chain, increasing performance and reliability.

Education

NRU Higher School of Economics   *Moscow, Russia*
BACHELOR IN APPLIED MATHEMATICS AND COMPUTER SCIENCE, SPECIALIZING IN DISTRIBUTED SYSTEMS   *Sep 2019 – Jul 2023*

- GPA: 8.72/10
- Related courses: Algorithms and Data Structures, Computer Architecture and Operating Systems, Distributed Systems.
- Received a full tuition scholarship.

Open Source Contributions

Text Style Brush architecture implementation
MACHINE LEARNING ENGINEER

- With a team of 2 other engineers, implemented Text Style Brush architecture for deep text editing, resulting code is featured on papers with code: Text Style Brush: Transfer of Text Aesthetics, and the github repository has gathered more than 100 stars.