Sergey Vilgelm
Principal Software Engineer

Over 20 years of software development experience with expertise in Rust, Golang, Python, Kubernetes, Docker, Rest API, AWS, Azure.
Ability to learn new technologies, out of box thinking, ability to manage projects, ability to work within tight deadlines, self-motivated, good team player.

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GitHub: https://github.com/SVilgelm
Open Source Projects: https://github.com/sv-tools
LinkedIn: https://www.linkedin.com/in/svilgelm/

Professional Experience

Microsoft: Principal Software Engineer (Nov 2023 - …; Redmond, WA)
- **Leading the Rust experiment**
  Re-implementing an existent service in Rust. The goal of experiment is to figure out the readiness of the internal tools and CI/CD pipelines to support the applications written in Rust lang. The application must be integrated with all internal tools, like logging and metric systems; be able to use token issuer and validation services; support GRPC and Rest communication protocols and etc…
- **Driving the revers proxy PoC**
  Designing, driving to clarity and finding appropriate solution to shield the API layer of any internal services without direct integration with concurrency management system.
  The project should provide dynamic and distributed rate limiting and scheduling functionality by intercepting all requests and responses to a protected service; analyze the requests and check if the backend system has enough resources to fulfill the requests or postpone the execute by scheduling and reserving necessary resources; process back-pressure signals to make the informed decision on earlier stages.

Technologies: Rust, GRPC, Rest API, Windows HTTP Sys, Azure.

Styra: Senior Software Engineer (May 2021 - May 2023; Remote)
- **Lead of the Data Sources project.**
  Adding new data sources, supporting the existing data sources and optimizing the memory consumption and performance. Adopting the datasources code to Load project (Enterprise OPA).
  Processing the data in different formats, like json, xml, yaml, LDAP/AD on the server side using different approaches to transform or modify the data in place, avoiding unneeded unmarshaling/decoding, to save the memory and CPU resources. Optimizing the service for high performance and faster processing of incoming data flow.
- **Lead of the e2e test framework.**
  Testing the different systems via http requests and running different versions of the micro-services in the Docker containers. Collecting the stats from the docker containers and the http requests. Preparing the tests reports, including the API coverage and Docker stats.

Technologies: Golang, Kubernetes, Docker, Rest API (swagger), AWS, GCP, Azure, Git, Open Policy Agent

IBM: Software Developer (Oct 2019 - May 2021; Austin, TX)
- **GraphQL Gateway**
  Leading the implementation of a common interface to request a data from different micro-services and databases (MongoDB, MySQL) using Nautilus Gateway. Leading the process of adding the graphql endpoints in other services.
- **Reporting Framework**
  Leading the implementation of the service to generate reports in different formats using GraphQL gateway for fetching and processing a data. Transforming the data using the Json Query syntax in the report templates. Optimizing the data processing for the large data flow and for high performance.
- **Pricing Rules Engine**
  Leading the implementation of the a rules engine service to adjust the order prices based on the predefined

rules or rate cards using Json Logic. Optimizing the rules engine to process the high number of small request by implementing the rules execution login in Go. Using Redis to cache the results for the most frequent requests

Technologies: Python, Golang, Kubernetes, Docker, Rest API (swagger), GraphQL, gRPC, JsonLogic, Redis

Mirantis: Senior Software Engineer (May 2013 - Aug 2019; Austin, TX)

- **IAM**
  Implementing a system to provide a central point of users and permissions management for Kubernetes and OpenStack. Written in Go lang, It uses Keycloak as an OpenID provider and makes it possible to integrate OpenStack and Kubernetes with Keycloak.
  Using Docker to deploy the IAM API server in a Kubernetes cluster.
- **Core developer at Patrole**
  Patrole is a set of integration tests to be run against a live OpenStack cluster. It has a battery of tests dedicated to validating the correctness and integrity of the cloud's RBAC implementation.
  https://github.com/openstack/patrole
- **OpenStack monitoring tool using RabbitMQ**
  A monitoring tool for OpenStack uses notification channels to analyze the messages and keep a history of object changes.
- **Keystone-migration**
  A migration tool for keystone objects from one cloud to another using api v3.
  https://github.com/SVilgelm/keystone-migration
- **Glance-replicator**
  Glance-replicator for independent Keystone with api v3
- **Cloudferry**
  OpenStack cloud workload migration tool.
  https://github.com/Mirantis/CloudFerry
- **Neutron expert**
  OpenStack consultant for Ericsson Neutron's team. Mentoring the team members, making presentations, fixing the bugs in a code of the custom neutron plugin. Preparing the code base for upstreaming.
- **Contractor at Symantec**
  Fixing the bugs, improving a performance of the pl/pgsql scripts.
- **Vyatta Niblick**
  Developing a Quantum plugin together with a mechanism for deploying and configuring Vyatta VMs on demand.
- **Migration Volume in Cinder**
  Implementing capabilities to migrate volumes between nodes.

Technologies: Python, OpenStack components, Postgresql, Kubernetes, Docker

Reggi Business: Software Developer (Feb 2012 - Mar 2013; Moscow, Russia)

Enhancement of the system for domains registrar. Rewriting many modules from PHP to Python.
- **PowerDNS**
  Deploying the PowerDNS. Developing the manage system for a domain records using the Django and JsonRPC. Configuring database replicas to create child dns services.
- **Zabbix**
  Deploying and configuring Zabbix to monitor all Servers. Developing UserParameter scripts.

Technologies: Python, Django, PHP, PostgreSQL, JSON

Aspan Telecom: Software Developer (Sep 2010 - Feb 2012; Almaty, Kazakhstan)

Development and maintenance the billing system.
- **Accounting equipment**
  Developing a module of accounting equipment for a billing system.

Technologies: FreeBSD, PostgreSQL, Python, Turbogears, CherryPy

Arna (BeTop, Ducat): Software Developer (Dec 2008 - Sep 2010; Almaty Kazakhstan)

- **Billing system**
  Developing custom billing system, netflow collector.
- **NetUP UTM 5 Billing System**
  Deploying and customizing UTM5 web cabinet.

Technologies: Delphi, DevExpress, UniDAC, PostgreSQL, Oracle, NetFlow5, PHP

Electronic Archive Corp: Software Developer (Sep 2007 - Oct 2008; Almaty, Kazakhstan)
• **Saperion**
Deploying and configuring the Saperion to customers.
• **Knowledge base**
Developing a knowledge base system management using Drupal.
Technologies: VisualBasic, Delphi, PHP, Drupal

Skif Trade: IT-technician, Software Developer (Jan 2005 - Aug 2007; Almaty, Kazakhstan)
• **Application for the cash registers**
Developing software components for the cash registers.
• **IT-infrastructure**
Deploying IT-infrastructure within 3 supermarkets.
Technologies: Delphi, MSSQL

Academic Records

Almaty University of Power Engineering and Telecommunications
Electronic systems and technologies
Almaty, Kazakhstan
Sep 1999 - Jun 2011

Everett Community College
Advanced Manufacturing Technology: Welding and Fabrication ATA Degree
Everett, WA
Sep 2025 - …

Certificates

Udemy
• [Ultimate Rust Crash Course](#)
• [Ultimate Rust 2: Intermediate Concepts](#)
• [Clean Code](#)
• [gRPC[golang]](#)
• [Protocol Buffers](#)
• [Go Concurrency](#)
• [Go Testing](#)
• [Swagger](#)

MongoDB
• [M001: MongoDB Basics](#)
• [M201: MongoDB Performance](#)
• [M103: Basic Cluster Administration](#)

Coursera
• [A comprehensive approach to C# Fundamentals](#)
• [Foundations of Project Management](#)
• **Executive Data Science**
    • [Data Science in Real Life](#)
    • [Managing Data Analysis](#)
    • [Building a Data Science Team](#)
    • [A Crash Course in Data Science](#)
• [Getting Started with Google Kubernetes Engine](#)
• [Algorithmic Toolbox](#)

Stanford Online
• [Computer Science 101](#)

Austin Community College
• [Cloud Native Application](#)