Aviral Srivastava

• Github: kebab-mai-haddi • LinkedIn: /in/sriavi • Website: aviralsrivastava.com
• Email: hi@avisri.com • +1-617-283-3811 • Blog

EDUCATION

Boston University, Boston, MA. MS, Computer Science. CGPA : 3.77/4 Sep 2019 - Dec 2020
Vellore Institute of Technology, Chennai, B.Tech, CS and Engg. CGPA : 3.56/4. Jul 2014 - May 2018

SKILLS

- Rust, Python, Scala, C++, Go, Java, PHP, SQL, Spark, Aurora, Mesos, Kubernetes, Docker, Vagrant, Argo, Airflow, Kafka, Flink, Key-value DBs, AWS, GCP, Azure, On-Premise Data Centers

PROJECTS

- Zcash, Scalable UML, Polkadot-IPFS, etc.

WORK EXPERIENCE

Pinecone, Senior Software Engineer(SWE II), Platform, NYC Apr 2023 - Present

- Single handedly expanded Pinecone's serverless offering to GCP from nothingness to GA. Redesigned core services for cross-cloud compatibility, including a custom serverless solution with auto-scaling for AlloyDB.
- Engineered robust **failover detection** and zero-downtime migration strategies for **distributed database systems**. Enhanced comprehensive benchmarking tools and identified performance bottlenecks across cloud providers.
- Built Global Control Plane, enabling product's transition to serverless architecture with zero-downtime migration. Reduced request time from 10 seconds to around 1 second, and decreased operational costs by 10x. Implemented **Observability** for real-time metrics and alerting for proactive issue resolution in distributed environments.
- Overall, as an early joinee, I owned stuff across Database tech stack: System Stability (Distributed SLI Checkers), CICD(oncall, reducing costs by $20k), Security(implemented Gated Security using Cloud Armor), Pod Disruption Budget, etc.
- Served as on-call engineer for both Pinecone Serverless (v4) and Pod-based (v3) distributed systems, gaining comprehensive knowledge and troubleshooting experience.
- Stack: **Rust, Google Cloud Run, Cloud Spanner, Pulumi, SeaORM, Datadog, Kubernetes**. Focus on **failover mechanisms** for Serverless experience.

Twitter, Software Engineer II, Graph Storage(Platform/Real Time Storage), NYC Apr 2021 - Feb 2023

- We replaced the decade old Flock (Graph Storage service) with a new service (Flock v1.5) that will scale the write pipeline, improve data consistency, and reduce human ops. Led setting up v1.5 as a multi-data Center setup.
- Proposed, designed, and developed Backup Verification in **Scala**: a service to verify 300 TB of backups as they (backups) are used in v1.5 to serve live traffic.
- Performed oncall operations such as rebalancing shards, restoring servers during heatwave, modifying mirrorsets to cater fast product iterations, etc.
- Led the team for building a managed graph database offering for analytics purposes,graph machine learning, and applications. Reduced onboarding time from 1 week to minutes, for data teams at Twitter.
- Supervised request based authorization for Flock data, mentored two interns.

Atlan, Software Engineer(Data) May 2018 - Jul 2019

- Ensured the development and on-premise deployments of dashboards like United Nations SDGs monitoring, Ujjwala Dashboard using **Python3, Kubernetes, Docker and AWS S3**.
- Integrated serverless JupyterHub: a multi-user hub that spawns, manages, and proxies multiple instances of the single-user Jupyter notebook server. Stack: **papermill, Python3, Docker, Helm, Kubernetes**. Used by companies like **Unilever, Mindshare, McKinsey & Co.**
- Built and deployed Data Repository: a version control system for tabular data, including features like 'git diff', rollback, at a scale of over **billion rows in one cycle**. Stack: **Python3, S3, RocksDB, KyotoDB, Hive metastore and PrestoDB**. This scaled the production releases by **300%**: 1 project release to 3 project releases per quarter.

Redhat, Software Engineering (Data) Intern, Internal Data-Hub team, Boston May 2020 - Dec 2020

- Re-partitioned the schema of SOS reports (**10 Trillion+ rows**, **100+ TeraBytes** data) to ensure high data availability and low latency, using **Argo, Spark, JupyterHub, Kubernetes**.

Advisory, Research & Entrepreneurship

- Centify (Co-founder & CTO): Built audience engagement tools for digital media platforms.
- **Find Signal** (Technical Advisor): Consulted on blockchain infrastructure and databases.
- **Boston University** (Research Associate): Secured MIT-ICORPS funding for scalable UML diagram research commercialization.