

Sharan Seshadri

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA

May 2021

Master of Science in Electrical and Computer Engineering, GPA: 3.70/4.00

Manipal Institute of Technology, India

May 2019

Bachelor of Technology in Electronics and Communication Engineering, GPA: 9.11/10.00

WORK EXPERIENCE

Juniper Networks, Sunnyvale, CA

Software Engineer 3

Jul 2021 – Present

I am currently building visibility features for Juniper Cloud Interlink (JCI), a SaaS multi-cloud networking product. My primary tech stack includes **Golang, Kubernetes, gRPC, and AWS**. I have a strong background in both backend and infrastructure engineering. Key contributions include:

- **Owned the "Application Visibility" component** of JCI, providing insights into the performance of onboarded applications through metrics such as data consumption trends and high-usage applications.
- **Developed and managed** a central monitoring system for multiple on-prem infrastructure clusters using the Thanos framework. This involved deploying Thanos data consumers via ArgoCD and configuring Thanos across producer clusters for metric aggregation and querying.
- **Built cost visibility features** that aggregated compute and network costs across AWS resources provisioned by JCI, offering customers detailed insights into resource expenditure.
- **Maintained and scaled** an internal cloud-based microservice to provide development infrastructure as a service, supporting over 200 developers within Juniper's CTO organization.
- **Contributed to the development of a debugging tool** for customer deployments of Juniper's Contrail networking product. I owned the feature test suite and established a continuous delivery pipeline to detect regressions during feature development.
- **Upgraded microservice communication** from HTTP REST to gRPC, including the creation of protocol buffers for serializing data, re-writing REST-style requests and responses to gRPC, resulting in improved latency.
- **Introduced object-relational mapping (ORM) in Golang** for database entity creation within JCI, replacing raw SQL commands. This improved the microservice by enabling table automigration, simplifying CRUD operations, and reducing code complexity, resulting in more maintainable and scalable database interactions.

SKILLS

Languages: C++, Python, Golang

Frameworks: Git, Bazel, PostgresQL

Cloud/Distributed Systems: Kubernetes, Helm, gRPC, ArgoCD, AWS SDK, Prometheus, Grafana, Thanos, REST API design, Docker, Opensearch

PROJECTS

Knowledge Distillation using Multi-Object Impressions

British Machine Vision Conference, 2021

- I co-authored a paper at BMVC 2021 to optimize machine learning models for object detection. The idea behind Knowledge Distillation is to utilize training data as a transfer set to transfer knowledge from a complex network, called a "teacher" to a smaller network, called a "student".
- Our approach prepared pseudo-targets and synthesized samples using only the pretrained Faster RCNN Teacher network. We use this pseudo-dataset as a transfer set to conduct zero-shot KD for object detection.