

# SATPREET MAKHIJA

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## SUMMARY

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Interested in computation as a lens for problem-solving — distributed systems, machine learning, and infrastructure design.

## WORK EXPERIENCE

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### Firebolt

Nov 2025 - Present

*Software Engineer*

- Joined the **founding engineering team** to build the first version of Firebolt's **self-hosted platform**, enabling enterprise customers to deploy the data warehouse in isolated, air-gapped environments.
- Designed and built an **in-house air-gapped feature flags system** from scratch, reducing operational costs by **\$50,000 annually** and enabling dynamic configuration in isolated deployments.
- Implemented an **air-gapped Temporal workflow engine** and partnered with early customers to deliver successful proof-of-concepts and **production deployments** of the self-hosted platform.

### Google

Mar 2024 - Sept 2025

*Software Engineer, Distributed Cloud Team*

- Built a **self-healing container registry** for air-gapped Google Cloud deployments on a **40kg portable device**, using Kubernetes controllers to ensure automated recovery and high availability.
- Designed and implemented a **signature verification system** for container images, enabling software integrity checks and secure validation of Google software shipped to customer data centers.
- Architected the **networking infrastructure** for the artifact registry product, creating a **secure service mesh** using Istio to connect artifact distribution and monitoring across multicluster environments.
- Built a **scalable monitoring stack** to collect metrics from system workloads, and designed a **customer-facing API** for metrics scraping, alerting, and dashboard creation using Grafana and Prometheus.
- **Mentored junior engineers and hosted a summer intern (converted)** on a metrics adapter for collecting telemetry data in OpenTelemetry format, from conception through production deployment.

### Google

Jul 2022 - Mar 2024

*Strategic Cloud Engineer*

- **Researched and prototyped Data Insights, an LLM-powered natural language query engine for tabular data** — evaluated approaches, ran experiments on accuracy and latency tradeoffs, now publicly available in Google Cloud's data management product.
- Designed **infrastructure-as-code** for a shopping platform to automate provisioning of **Kubernetes clusters, private networks, and organization policies** on the cloud.
- Contributed to **open-source Dataproc tools for big data ETL pipelines using Spark and Hadoop**, delivering with end-to-end ownership a feature that automatically extracts, transforms, and loads data from MongoDB to BigQuery.

## EDUCATION

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### Ashoka University

Bachelors of Science (Honours) Computer Science

Aug 2018 - Apr 2022

**Major CGPA: 3.74/4**

## TECHNICAL SKILLS

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### Programming Languages

Golang, Python, Typescript, Javascript, Terraform, SQL, Nix

### Frameworks and Tools

Helm, NodeJS, Docker, PostgreSQL, Kubernetes, Git, Linux

### Cloud & Observability

GCP, Grafana, Prometheus, OpenTelemetry, CI/CD, gRPC, REST

### Data & ML

Spark, Hadoop, Numpy, Pandas, Scikit-learn, Pytorch