www.siddharthkannan.in
github.com/icyflame

K Siddharth Kannan

mail@siddharthkannan.in

Skillset

- **Programming Languages:** Golang, PHP
- **Tools:** MySQL, Ansible, Terraform, Istio, Kubernetes
- **Cloud:** GCP, GKE, AWS
- **Concepts:** Microservices, REST API, service mesh, observability, containerization
- **Developer Tools:** Linux, Git, Perl, Awk, Sed

Education

B.Tech and M.Tech (Dual Degree)	**IIT Kharagpur**	**2013-2018, CGPA 8.51/10.0**

- **Major:** Mechanical Engineering
- **Minor:** Mathematics and Computing
- **Coursework:** Operating Systems; Computer Networks; Distributed Systems; Design and Analysis of Algorithms;

Work Experience	**Mercari, Inc. (Tokyo, Japan)**	**Oct 2018 - present**

Mercari is a mobile application that is used by millions of customers in Japan and US to buy and sell pre-owned items online. I have been working in the Backend engineering organization at Mercari US. Mercari US had 1 million daily active users during 2023. The company's scale has grown 3 times since I joined the company, from a yearly GMV of $350 million in 2019 to $1 billion in 2023. I have worked on the backend application code as well as the database and deployment platform that have supported this steady growth.

Site Reliability Engineer — May 2021 - present

- Lead migration from MySQL to horizontally sharded database using Vitess and MySQL 8 (ongoing)
- Work with 6 other SREs to establish SLOs across all microservices for success rate and 95%ile latency
- Work as the tech lead to upgrade MySQL from 5.7 to 8.0, without any downtime, on 15 hosts
- Maintain MySQL database deployed on GCE VMs, supporting 200,000 read QPS over 30 TB of data and 25 hosts
- Simplify the process of schema migration on MySQL, reducing completion time for requests from 5 days to 2 days
- Implement writeset replication to increase supported peak write capacity of DB cluster from 2000 QPS to 7000 QPS
- Replace adhoc message broker system with GCP's Pub/Sub, supporting peak throughput of 800 messages per second
- **Technologies:** Golang, Linux, PHP, MySQL, gh-ost, pt-query-digest, Ansible

Backend Engineer (Foundations) — May 2020 - April 2021

- Implement Recaptcha-based server-side blocking of login requests, leading to a 50% reduction in account take-over (ATO)
- Implement multi-factor authentication using HOTP which reduced ATO by a further 10%
- Rotate all secrets referred to in codebases affected by CodeCov incident in April 2021
- Introduce canary deployments serving 1% of traffic using Istio VirtualService, reducing release-related incidents by 10%
- **Technologies:** Golang, PHP, Grafana+Prometheus+PromQL, Istio

Backend Engineer (Search) — Oct 2018 - April 2020

- Work in a team of 4 engineers developing search functionality for the Mercari US application
- Work with search engines (Solr and Algolia) to develop a reliable architecture with redundancy
- Work with the Network team at Algolia (search vendor) to establish SLO of 99.95% with median latency of 120ms
- Implement a feature to promote items and place promoted items at the required locations on the search page
- Implement a feature to control the ratio of sold-out items showing up in the search result
- Implement search functionality for inter-city, rapid delivery service Mercari Now
- Participate proactively in on-call rotation and incident management
- **Technologies:** Golang, Kubernetes, Algolia, Grafana, GCP

Work Experience	**Elanic (Bangalore, India)**	**May 2017 - July 2017**

Backend Intern (Node.js) — May 2017 - July 2017

- Elanic was a platform for buying and selling pre-owned items with 1 million users in India
- Designed and implemented Groups feature, for the establishment of interest-based communities
- Implemented user search in groups using ElasticSearch's full-text queries and some term-level queries
- **Technologies:** Node.js, ExpressJS, MongoDB, ElasticSearch, Redis.   ... Project Details