

AMIN KARBAS

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SUMMARY

Site Reliability Engineer with over three years of experience in developing and deploying distributed systems. Proficient in containerization and orchestration using Docker, Nomad, and Kubernetes, and skilled in automation with Bash, Python, and GoLang, including the creation of Kubernetes operators. Familiar with cloud infrastructure concepts and keen to develop this expertise further. Adept at problem-solving and effective in team communication, I am set to graduate with a Master's degree from UC Santa Cruz in March 2024, with a research focus on applied cryptography and security, complemented by coursework in systems. I am eager to apply my technical knowledge and collaborative abilities to contribute to innovative projects and drive continuous improvements.

EXPERIENCE

- 7/2023 - 9/2023 **NEURALINK** *Intern Infrastructure Software Engineer*
- Halved surgical robot software OS image build time with a CI pipeline using Packer and QEMU
 - Improved surgical robot software deploy time by 6x and reduced manual steps by 3x with automated installation via iPXE, Casper, Subiquity, and Curtin
- 6/2018 - 6/2021 **SOTOON (CAFEBAZAAR CLOUD)** *Infrastructure Software Engineer*
- Engineered a big data platform supporting multiple user-facing apps with 84M+ active users across Android, iOS, and web platforms, enabling robust data handling and analysis at petabyte scale
 - Launched and maintained highly available Druid, Kafka, Hadoop, Spark, Zeppelin, ZooKeeper and M3DB clusters and services with high-accuracy billing systems
 - Developed Kubernetes operators to manage Kafka, Hadoop, ZooKeeper clusters in a Platform as a Service (PaaS) environment
 - Scaled storage infrastructure 100x, from tens of terabytes to petabytes, meeting increased data demands
 - Contributed to 24/7/365 on-call incident response, ensuring system reliability and rapid issue resolution
 - Authored mentorship materials and effectively mentored new team members
- 8/2020 - 12/2020 **MAX PLANCK INSTITUTE FOR INFORMATICS** Saarbrücken, Germany
Intern Researcher
- Designed a pipeline to collect and stay current with Certificate Transparency Logs' data

PUBLICATIONS

- J. G Chamani, D. Papadopoulos, **M. Karbasforushan**, I. Demertzis. Dynamic Searchable Encryption with Optimal Search in the Presence of Deletions. **USENIX Security 2022**

EDUCATION

- 9/2021 - 3/2024 **UNIVERSITY OF CALIFORNIA, SANTA CRUZ** *M.S., Computer Science and Engineering*
- Distributed Systems, Database Systems Design, Operating Systems, Architecture, Hardware Design
 - Graduate Student Researcher at Security Research Lab, studying applied cryptography and security
 - Graduate Student Mentor at Undergraduate Directed Reading Program
 - Teaching Assistant for Data Structures and Algorithms, Cryptography, and Distributed Systems
- 9/2016 - 7/2021 **SHARIF UNIVERSITY OF TECHNOLOGY** *B.S., Computer Science*
- Operating Systems, Computer Networks and Security, Parallel Programming and Architecture

ADDITIONAL INFORMATION

TECHNICAL SKILLS

- **Proficient in** Docker, Kubernetes, Druid, Hadoop, Kafka, Zeppelin, ZooKeeper, Nomad, Certificate Transparency, GoLang, Python, C++, Bash, GNU/Linux, Git, LaTeX
- **Experience with** Nix, CI/CD, Packer, Vagrant, QEMU, iPXE, Ansible, Spark, Prometheus, PostgreSQL

HONORS AND AWARDS

- **99.6 percentile** in 2016 Iranian nationwide university entrance exam for Mathematics & Physics (STEM)
- **99.8 percentile** in 2016 Iranian nationwide university entrance exam for Foreign Language Studies

PROFESSIONAL SERVICE

- **External Reviewer** at ICDE 2024, SIGMOD 2024, CCS 2023, SIGMOD 2023, FCS (IEEE CSF) 2022