

RESEARCH INTERESTS

- **Applied Cryptography and Security:** Oblivious Computing, Encrypted Databases and Systems, Efficient Cryptographic Primitives using Hardware Enclaves
- **Systems:** Disaggregated Data Centers, Near-Data Computation, Distributed Databases

EDUCATION

- 9/2021 - 06/2026 **UNIVERSITY OF CALIFORNIA, SANTA CRUZ** Santa Cruz, CA
Ph.D., Computer Science and Engineering
- Studying applied cryptography and security, advised by Prof. Ioannis Demertzis
 - Coursework: Cryptography and Security, Distributed Systems, Database Systems Design, Advanced Operating Systems
- 9/2016 - 7/2021 **SHARIF UNIVERSITY OF TECHNOLOGY** Tehran, Iran
B.S., Computer Science
- Coursework: Data and Network Security, Distributed Systems and Blockchains, Operating Systems, Computer Networks, Parallel Programming and Architecture, Bioinformatics, Image Processing

PUBLICATIONS

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

RESEARCH & WORK EXPERIENCE

- 9/2021 - Present **UNIVERSITY OF CALIFORNIA, SANTA CRUZ** Santa Cruz, CA
Graduate Student Researcher & Teaching Assistant
- Graduate Student Researcher at Security Research Lab, focused on Applied Cryptography and Security
 - Teaching Assistant for CSE138 - Distributed Systems (Winter 2023)
 - Teaching Assistant for CSE101 - Data Structures and Algorithms (Fall 2022)
 - Teaching Assistant for CSE108 - Algorithmic Foundations of Cryptography (Winter 2022)
- 8/2020 - 12/2020 **MAX PLANCK INSTITUTE FOR INFORMATICS** Saarbrücken, Germany
Research Intern
- Designed a pipeline to collect and stay up to date with Certificate Transparency Logs' data
- 7/2018 - 5/2021 **SOTOON (CAFEBAZAAR CLOUD)** Tehran, Iran
Data Infrastructure Engineer
- Built the platform to transfer, store, and analyze big data at petabyte scale for multiple apps with 84M+ active users across Android, iOS, and web
 - Set up and maintained Apache {Druid, Kafka, Hadoop, Spark, Zeppelin, ZooKeeper} and M3DB clusters and services; Designed health checks and high-accuracy billing systems for them
 - Developed Kubernetes operators to manage Apache {Kafka, Hadoop, ZooKeeper} clusters in a Platform as a Service (PaaS) environment
 - Scaled the storage cluster from 10s of terabytes to petabytes (100x)
 - Created mentorship documents and mentored new team members

ADDITIONAL INFORMATION

PROFESSIONAL SERVICE

- **External/Sub-reviewer:** SIGMOD 2024, CCS 2023, SIGMOD 2023, FCS (IEEE CSF) 2022

TECHNICAL SKILLS

- **Proficient in** Docker, Kubernetes, Apache {Druid, Hadoop, Kafka, Zeppelin, ZooKeeper}, HashiCorp Nomad, GoLang, Python, C++, GNU/Linux, Git, LaTeX
- **Experienced with** Apache Spark, Java, HashiCorp Vagrant, Prometheus, M3DB, PostgreSQL

HONORS AND AWARDS

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