MOHAMMADAMIN KARBASFORUSHAN (AMIN KARBAS)
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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 - Present   **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

8/2020 - 12/2020   **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 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 2023 (cycles A/B/C), FCS 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