

# MOHAMMADAMIN KARBASFORUSHAN (AMIN KARBAS)

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## EDUCATION

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- 9/2021 - Present **UNIVERSITY OF CALIFORNIA, SANTA CRUZ** Santa Cruz, CA  
Ph.D., Computer Science and Engineering
- Focus: Applied Cryptography
- 9/2016 - 7/2021 **SHARIF UNIVERSITY OF TECHNOLOGY** Tehran, Iran  
B.S., Computer Science
- Coursework: Operating Systems, Parallel Programming and Architecture, Computer Networks, Data and Network Security, Distributed Systems and Blockchains, Bioinformatics, Image Processing
  - Voluntary member of the Sharif Green Society, advocating for environmental protection
  - Voluntary organizer of seminars in the scientific chapter of the Mathematics and Computer Science department

## EXPERIENCE

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- 8/2020 - 12/2020 **MAX PLANCK INSTITUTE FOR INFORMATICS** Saarbrücken, Germany  
*Research Intern*
- Collaborated with Dr. Oliver Gasser in Prof. Anja Feldmann's research group
  - 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 user-facing apps with 84M+ active users across Android, iOS, and web
  - Researched and provided strategic recommendations for solution architecture including Apache Druid for OLAP and Presto for SQL on Hadoop
  - 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
  - Scaled the storage cluster from 10s of terabytes to petabytes (100x)
  - Developed Kubernetes operators to manage Apache {Kafka, Hadoop, ZooKeeper} clusters in a Platform as a Service (PaaS) environment
  - Created mentorship documents and mentored new team members
- 7/2017 - 9/2017 **SAHAB PARDAZ** Tehran, Iran  
*Data Engineering Intern*
- Developed a distributed and highly available web search engine indexing millions of websites
  - Developed and maintained a document index/fetch wrapper for ElasticSearch

## PUBLICATIONS

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

## ADDITIONAL INFORMATION

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### PROFESSIONAL SERVICE

- **External/Sub-reviewer:** SIGMOD 2023

### TEACHING ASSISTANCE

- CSE108 Algorithmic Foundations of Cryptography (Winter 2022)

### TECHNICAL SKILLS

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

### 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

### INTERESTS

- **Research Interests include:** Applied Cryptography, Security, Operating Systems, Architecture, Storage/File Systems, Distributed/Cloud Computing

- **General Interests include:** Mountain Biking, Cooking, Dancing, Mental Health Awareness, Gender Equality, Environmental Protection, Distributed and Scalable Software