

## EDUCATION

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- 9/2021 - Present    **UNIVERSITY OF CALIFORNIA, SANTA CRUZ**    Santa Cruz, CA  
Ph.D., Computer Science and Engineering
- Studied Cryptography & Security, Distributed Systems, Database Systems Design, Advanced Operating Systems
- 9/2016 - 7/2021    **SHARIF UNIVERSITY OF TECHNOLOGY**    Tehran, Iran  
B.S., Computer Science
- Studied Data & Network Security, Distributed Systems & Blockchains, Operating Systems, Computer Networks, Parallel Programming & Architecture, Bioinformatics, Image Processing

## 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**

## RESEARCH & WORK EXPERIENCE

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- 9/2021 - Present    **UNIVERSITY OF CALIFORNIA, SANTA CRUZ**    Santa Cruz, CA  
*Graduate Student Researcher & Teaching Assistant*
- Graduate Student Researcher at Security Research Lab, studying applied cryptography & security
  - Teaching Assistant for CSE101 - Data Structures & Algorithms (Fall '22, Fall '23)
  - Teaching Assistant for CSE108 - Algorithmic Foundations of Cryptography (Winter '22, Spring '23)
  - Teaching Assistant for CSE138 - Distributed Systems (Winter '23)
- 7/2023 - 9/2023    **NEURLINK**    Fremont, CA  
*Intern Infrastructure Software Engineer*
- Reduced surgical robot software build time by 2x using a pipeline to build ready-for-surgery OS images in CI using HashiCorp Packer QEMU
  - Reduced surgical robot software deploy time by 6x and manual steps by 3x using automated installation via iPXE, Casper, Subiquity, and Curtin
- 8/2020 - 12/2020    **MAX PLANCK INSTITUTE FOR INFORMATICS**    Saarbrücken, Germany  
*Intern Researcher*
- 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
  - Set up and maintained highly available Apache {Druid, Kafka, Hadoop, Spark, Zeppelin, ZooKeeper} and M3DB clusters and services with high-accuracy billing systems
  - 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)

## ADDITIONAL INFORMATION

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### 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** Nix, HashiCorp {Packer, Vagrant}, QEMU, iPXE, Apache Spark, Java, Prometheus, M3DB, PostgreSQL

### HONORS AND AWARDS

- Top **0.4 percentile** in 2016 Iranian nationwide university entrance exam for Mathematics & Physics (STEM)
- Top **0.2 percentile** in 2016 Iranian nationwide university entrance exam for Foreign Language Studies