MOHAMMADAMIN KARBASFORUSHAN

k.mohammadamin@gmail.com | akarbas.github.io

EDUCATION

9/2016 - Present SHARIF UNIVERSITY OF TECHNOLOGY

Tehran, Iran

Pursuing B.S. in Computer Science

- GPA: 3.7/4.0
- 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

9/2012 - 6/2016

NATIONAL ORGANIZATION FOR DEVELOPMENT OF EXCEPTIONAL TALENTS Tehran, Iran Allameh Helli 5 High School

- GPA: 4.0/4.0
- Diploma In Mathematics And Physics
- Scored 99.6 percentile in 2016 nationwide university entrance exam in Mathematics & Physics
- Scored 99.8 percentile in 2016 nationwide university entrance exam in Foreign Language Studies

EXPERIENCE

8/2020 - Present

MAX PLANCK INSTITUTE FOR INFORMATICS

Saarbrücken, Germany

- Research Intern
- Collaborated with Dr. Oliver Gasser in Prof. Anja Feldmann's research group
- Investigated the impact of changes in TLS certificate lifetime requirements enforced by user-agents
- Designed a pipeline to collect and stay up to date with Certificate Transparency Logs' data
- Analyzed 11B records from all available Certificate Transparency Logs
- Accumulated 5 billion TLS certificates for further active measurements

7/2018 - Present

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 solutions architecture including Apache Druid for OLAP and Presto for SQL on Hadoop
- Set up and/or maintained Apache {Druid, Kafka, Hadoop, Spark, Zeppelin, ZooKeeper} and M3DB clusters/services; Designed currently running probers 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 environment
- Created mentorship documents and mentored new team members
- Increased team productivity and efficiency by coordinating work processes

2/2018 - 9/2019

GOJESABZ BIG DATA

Tehran, Iran

- Machine Learning Engineer
- Collaborated with Dr. Shahin Rouhani and a team of students from Sharif University of Technology
- Built a deep learning-based Farsi text Object Character Recognition (OCR) pipeline
- Developed convolutional and long short-term memory neural networks for image classification, super-resolution, and OCR

7/2017 - 9/2017

SAHAB PARDAZ

Tehran, Iran

- Data Engineering Intern
- Developed a distributed and highly available web search engine indexing millions of websites
- Set up, maintained, and wrote a document index/fetch wrapper for ElasticSearch

SELECTED COURSE PROJECTS

Fall 2019	Buffer Overflow, Format String, XSS, SQL Injection, and ARP Poisoning Attack Implementation Data and Network Security
Spring 2019	DHCP, UDP Hole Punching, and BGP Implementation Data Transfer and Computer Networks
Spring 2019	Gene Expression, Gene Ontology, and Pathway Analysis with R Introductory BioInformatics
Spring 2019	Blockchain/Cryptocurrency Analysis Platform Data Engineering
Fall 2018	Crowdfunding Ethereum Smart Contract Foundations of Blockchain Technology and Cryptocurrencies
Spring 2018	Checkers AI with Minimax and AlphaBeta Pruning Analysis of Algorithms
Fall 2017	CPU Design With Verilog and Quartus Principles of Computer Systems
Fall 2017	TicTacToe with AI adversary in MIPS assembly Principles of Computer Systems

SELECTED COURSES

20.0/20.0	Data Transfer and Computer Networks
20.0/20.0	Data Engineering
19.0/20.0	Advanced Programming
18.7/20.0	Principles of Computer Systems
18.5/20.0	Fundamentals of Computers and Programming
18.0/20.0	Data and Network Security
17.8/20.0	Database Systems
17.6/20.0	Introductory BioInformatics
17.2/20.0	Principles of Image Processing
16.6/20.0	Foundations of Blockchain Technology and Cryptocurrencies (Graduate Course)

ADDITIONAL INFORMATION

TEST SCORES

- TOEFL iBT score: 115 (Reading 30, Listening 30, Speaking 28, Writing 27)
- **GRE General Test** score: Quant 169, Verbal 155, Writing 4.0

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}

LANGUAGES

• Fluent in English; Native speaker of Farsi

INTERESTS

- Research Interests include: Operating Systems, Storage/File Systems, Distributed/Cloud Computing, Hardware Accelerators, Hardware-Software Co-Design, SoCs
- **General Interests include:** Mountain Biking, Dancing, Mental Health Awareness, Gender Equality, Environmental Protection, Distributed and Scalable Software, Cloud-Native Software, Electronic Gadgets