

# Sajjad Rahnama

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[sajjad.rahnama7@gmail.com](mailto:sajjad.rahnama7@gmail.com) | 530-761-6999 | [sajjadrahnama.com](http://sajjadrahnama.com) | Academic Surge 2392, One Shields Avenue, Davis  
[DBLP](#) | [Linkedin](#) | [Google Scholar](#)

## Summary

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I am third year Ph.D. student interested in building low level systems specially distributed platforms and everything related to infrastructure. Extremely passionate about C and C++ and problem solving in a creative way. I am also interested in large scale systems and eager to learn how to build very large platforms and how they work.

## EDUCATION

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**Ph.D. in Computer Science**, University of California, Davis, CA, USA **Sep 2018 – Present**

- **Advisor:** Prof, [Mohammad Sadoghi](mailto:mo.sadoghi@ucdavis.edu)([mo.sadoghi@ucdavis.edu](mailto:mo.sadoghi@ucdavis.edu))
- **Course Work:** Completed, **GPA 3.97**
- **Research Focus:** Distributed Fault Tolerant Protocols, BFT Consensus Algorithms, Secure Transaction Processing
- **Organizations:** Blockchain at Davis (BAD)

**Bachelor of Science in Computer Engineering**, Tehran Polytechnique, Tehran, Iran **Sep 2013 – Aug 2018**

- **GPA:** 3.6
- **Related Courses:**
  - Principles of Database Design
  - Data Structures and Algorithms
  - Data Storage and Information Retrieval
  - Design of Algorithms
  - Artificial Intelligence
  - Foundations of Matrix and Linear Algebra

## PUBLICATIONS

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- **Sajjad Rahnama**, Suyash Gupta, Jelle Hellings, Mohammad Sadoghi: ResilientDB: Global Scale Resilient Blockchain Fabric, Proceedings of the VLDB Endowment(VLDB 2020)[[reproducibility badge](#)]
- **Sajjad Rahnama**, Suyash Gupta, Thamir Qadah, Jelle Hellings, Mohammad Sadoghi: Scalable, Resilient and Configurable Permissioned Blockchain Fabric. Proceedings of the VLDB Endowment (VLDB 2020)
- **Sajjad Rahnama**, Suyash Gupta, Mohammad Sadoghi: Permissioned Blockchain Through the Looking Glass: Architectural and Implementation Lessons Learned, 2020 International Conference on Distributed Computing Systems (ICDCS 2020)
- Suyash Gupta, Jelle Hellings, **Sajjad Rahnama**, Mohammad Sadoghi: An In-Depth Look of BFT Consensus in Blockchain: Challenges and Opportunities. 20th ACM/IFIP International Conference **Middleware 2019**
- Suyash Gupta, Jelle Hellings, **Sajjad Rahnama**, Mohammad Sadoghi: Blockchain Consensus Unraveled: Virtues and Limitations, 2020 Distributed Event-Based Systems (DEBS 2020)

## RESEARCH AND PROJECTS

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- **ResilientDB, A Permissioned Blockchain Fabric** **Jan 2019 - Present**
    - **Role:** Design, Architect, and Implementation
    - High-throughput Yielding Distributed ledger built upon scale-centric design principles to democratize and decentralize computation written in **C/C++**. [[website](#)][[source code](#)]
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- **Design and Architect:** re-architected and re-imagined modular system design from scratch that embeds parallelism and deep pipelining at every layer to fully exploit modern hardware and cloud infrastructure globally
  - **Core BFT Protocols:** Implementing modern BFT protocols such as Zyzzyva, PBFT, Hotstuff
  - **Web Dashboard:** Admin dashboard for fabric using **React/Node JS/Nginx/Influx**
- **L-Store: A Real-time OLTP and OLAP System** **Feb 2020**
  - **Role:** Design and Implementation
  - lineage-based storage architecture, a contention-free update mechanism over a columnar storage
  - Implementing L-Store in Python from the scratch as TA for Database Design Course at UC Davis
- **Enhancing Sentimental Analysis of User Reviews on BERT Supervised by Prof. I. Tagkopoulos** **November 2019**
  - We Improved the Sentimental Analysis of the movie reviews of the IMDb Dataset on the Google BERT NLP model using Transfer Learning. We employed a Large number of locations reviews from the YELP Dataset to refine the reviews' predictions. We managed to increase the AUC by 0.5% to 89.3%.
  - Python, Keras, TensorFlow

## PROFESSIONAL EXPERIENCE

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- Senior Web Developer at Papion** [\[website\]](#), Tehran Iran **Feb 2015 – Sep 2018**
- **Role:** System Designer and Technical Consultant, Senior Backend and Frontend Developer
  - Food and recipe social media labeled as “Sarashapz Papion” with more than a million users. (JavaScript, Angular, PHP, Docker, Laravel, MySQL, MongoDB, InfluxDB, Redis, HTML5, CSS, SASS)
- Senior Web Developer at Fandogh Co.,** University Based Startup, Tehran, Iran **JAN 2015 – MAY 2016**
- **Role:** Senior Backend and Frontend Developer
  - Under supervision and supported by Tehran Polytechnique university's Roshd institution
  - A news platform for university organizations frontend and backend written with PHP, Laravel, Angular
  - Food Reservation system for the students, web and mobile App frontend and backend

## TEACHING EXPERIENCE

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- Teaching Assistant at University of California Davis, CA**
- ECS 265: Distributed Database Systems [Fall 2019, Fall 2020][[website](#)]
  - ECS 165: Database Systems [winter 2019][[website](#)]
- Teaching Assistant at Tehran Polytechnique, Tehran**
- Principles of Programming [Fall 2014]
  - Discrete Structures [Spring 2015][By [Mehran S. Fallah](#)]
  - Introduction to Web Development [Fall 2015, Spring 2016][By [Bahador Bakhshi](#)]

## SKILLS

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**Programming:** C/C++ – Python – Java – JavaScript – Bash – PHP  
**Frameworks:** ReactJS – Laravel – Angular – NodeJS – Express JS  
**Services and Systems:** Google Cloud Platform - AWS - Docker- SQL - Linux and Bash - Git - LaTeX

## REFERENCE

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- Prof. Mohammad Sadoghi:**
- **Affiliation:** Assistant Professor in the Computer Science Department at the University of California, Davis
  - **Email:** [msadoghi@ucdavis.edu](mailto:msadoghi@ucdavis.edu)
  - **Website:** [msadoghi.github.io](https://msadoghi.github.io)

More references will be provided upon request

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