

SUMMARY

- Ten years plus experience in Java programming
- Five years plus research on design and analysis of algorithms, distributed algorithms, randomized algorithms, approximation algorithms, and online algorithms

EDUCATION

- **Ph.D. Candidate in Computer Science, University of California, Davis (UC Davis)** **2017–2022**
(GPA: 3.95/4.0) (expected)
 - *Teaching Assistant:* Theory of Computation (both graduate and undergraduate level)
 - *Selected Courses:* Advanced Algorithms (4.0/4.0), Computer Architecture (4.0/4.0)
- **Master of Science (M.Sc.) in Computer Engineering, Sharif University of Technology** **2015–2017**
(GPA: 18.78/20, Ranked 3rd in class)
 - *Teaching Assistant:* Approximation Algorithms, Computational Geometry (graduate level)
 - *Selected Courses:* Algorithmic Game Theory (18.1/20), Approximation Algorithms (19.5/20)
- **Bachelor of Science (B.Sc.) in Computer Science, Sharif University of Technology** **2010–2015**
(GPA: 15.35/20, Ranked 7th in class)
 - *Teaching Assistant:* Advanced Programming (interactive lab), Principles of Computer System
 - *Selected Courses:* Advanced Programming (18.6/20), Data Structures (18.7/20), Design and Analysis of Algorithms (19/20)

WORK EXPERIENCE

- **Software Engineer Intern at Google: Working on Google's knowledge Graph** **SUMMER 2020**
 - Working with **Data Commons** team.
 - Implementing **Python** scripts to clean data sets and import them into the **Knowledge Graph**; Peer review scripts using GitHub and Colab notebooks.
 - Using **Python and Rest API calls** to retrieve data and analyzed different types of missing data points of the times series available in the knowledge graph.
 - **Design and implementation** of missing data imputation module using **Go language**.

TECHNICAL SKILLS

PROGRAMMING LANGUAGE: Java (advanced proficiency), Go, Python (intermediate), C++, Pascal (beginner)
WEB DESIGN / FRAMEWORK: HTML, CSS, JavaScript
OTHER: Git, SQL, LaTeX

TECHNICAL EXPERIENCE

- **Implementing** autograding homeworks **SPRING 2020**
 - Using **Python** scripts
 - Connecting **GitHub** and Gradescope
- **Java Implementation** of multiple simulators for algorithms in population protocols **2018–now**
 - Object oriented programming to simulate agents in distributed model
 - Implementing randomized protocols
- Designing an **App Review Miner** to Extract Information from User Reviews **FALL 2016**
 - Phase 1: **Survey** on existing App-review miners [Team Project](#)
 - Phase 2: **Enhancement** of two existing App-review miners by combining their approaches

- **Phase 3: Evaluation**; comparing the results of our designed App-review miner with real user experiences
- **Java Implementation** of a P2P File Transfer Software SPRING 2011
- **Java Implementation** of a 2-Player Chess Board Game FALL 2010
- **Data Mining** in Practice SPRING 2014
 - Clustering psychological data by implementing K-means algorithm
- Developing a Social Media Webpage SPRING 2015
 - Mastering **HTML**, **CSS**, and **JavaScript** for the front-end implementation [Team Project](#)
 - Gaining skills in using **GitHub** commands
 - Utilizing **Django** platform for the back-end development

RESEARCH EXPERIENCE

- **Ph.D.:** Research on Distributed Computing Algorithms and Population Protocols 2017-now
 - **Design and analyze** of distributed computing algorithms that solve problems such as leader election, majority, exact and approximate counting
 - **Simulating** the algorithms in population protocols with Java
 - **Visualizing** simulated data using Python scrips and JSON formatted outputs
- **M.Sc.:**Online Algorithms for Fair Allocation of Goods 2016-2017
 - **Designing** an online allocation algorithm
 - **Analyzing** the competitive ratio of the presented algorithm
 - **Proving a lower bound** on the competitive ratio of any proposed algorithms for the problem
- Survey on **Mechanism Design** for Distributed Computing FALL 2015
- Research on Truthful Incentives in **Crowdsourcing** SPRING 2015

PUBLICATIONS

- Brief Announcement: A Time and Space Optimal Stable Population Protocol Solving Exact Majority. David Doty, [Mahsa Eftekhari](#), Leszek Gąsieniec, Eric Severson, Grzegorz Stachowiak, and Przemysław Uznański. In the 40th ACM Symposium on Principles of Distributed Computing (PODC 2021)
- Message complexity of population protocols. Talley Amir, James Aspnes, David Doty, [Mahsa Eftekhari](#), and Eric Severson. In the 34th International Symposium on Distributed Computing (DISC 2020)
- Efficient size estimation and impossibility of termination in uniform dense population protocols. David Doty, [Mahsa Eftekhari](#). In the 38th ACM Symposium on Principles of Distributed Computing (PODC 2019)
- Brief announcement: Exact size counting in uniform population protocols in nearly logarithmic time. David Doty, [Mahsa Eftekhari](#), Othon Michail, Paul G. Spirakis, and Michail Theofilatos. In the 32nd International Symposium on Distributed Computing (DISC 2018)

PREPRINT

- A survey of size counting in population protocols. David Doty, [Mahsa Eftekhari](#). arXiv preprint arXiv:2105.05408 (2021)

AWARDS AND HONORS

- UC Davis GGCS Richard Walters Scholarship Winner SUMMER 2021
- GHC scholarship recipient SUMMER 2020
- CRA-W travel scholarship recipient SPRING 2019
- UC Davis GGCS travel award recipient FALL 2018
- UC Davis graduate fellowship recipient (\$ 59,334.0/year) FALL 2017
- Ranked 15th, National Scientific Olympiad in Computer Engineering. SUMMER 2015
- Ranked 3rd, National Graduate Entrance Exam in CS. (amongst more than 5000 students) SPRING 2015
- Ranked 15th, National Graduate Entrance Exam in Computer Engineering, Software Engineering, Algorithms and Computations. (amongst more than 18000 students) SPRING 2015