

Mahsa Eftekhari Hesari

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SUMMARY

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

EDUCATION

- **Ph.D. Student in Computer Science, University of California, Davis (UC Davis)** **2017–NOW**
(GPA: **3.95/4.0**)
 - *Teaching Assistant:* Theory of Computation (Graduate and undergraduate courses)
 - *Selected Courses:* Advanced Algorithms (4.0/4.0), Programming Languages (3.7/4.0)
- **Master of Science (M.Sc.) in Software Engineering, Sharif University of Technology** **2015–2017**
(GPA: **18.78/20, Ranked 3rd in class**)
 - *Teaching Assistant:* Approximation Algorithms, Computational Geometry (Graduate courses)
 - *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 (2 Semesters), Principles of Computer System
 - *Selected Courses:* Advanced Programming (18.6/20), Data Structures (18.7/20), Design and Analysis of Algorithms (19/20)

TECHNICAL SKILLS

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

TECHNICAL EXPERIENCE

- **Java Implementation** of multiple simulators for algorithms in population protocols **2018-2019**
 - Object oriented programming to simulate agents
 - Distributed algorithms with significantly small memory per agents
- 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
 - **Simulating** the algorithms in population protocols with Java
 - Presenting the **first sublinear time algorithms** for counting the number of agents in population protocols
 - **Designing** composition scheme for protocols in the uniform setting of populations protocols
- **Master Thesis:** 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: 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, 2018.*
- 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.*

SERVICE EXPERIENCE

- **POSTER** EXACT SIZE COUNTING IN UNIFORM POPULATION PROTOCOLS IN NEARLY LOGARITHMIC TIME., *In the 25th International Conference on DNA Computing and Molecular Programming (DNA).* OCT. 2019
- **PRESENTATION** BRIEF ANNOUNCEMENT: EXACT SIZE COUNTING IN UNIFORM POPULATION PROTOCOLS IN NEARLY LOGARITHMIC TIME., *In the 32nd International Symposium on Distributed Computing (DISC).* OCT. 2018
- **PRESIDENT** OF SEDAD, GRADUATE STUDENT ASSOCIATION 2018-2019
- **MEMBER OF BOARD** OF STUDENT SCIENTIFIC ASSOCIATION IN MATHEMATICAL SCIENCES DEPT. 2012-2013

AWARDS AND HONORS

- 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