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 Presentation** of 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** of 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 15^{th}, National Scientific Olympiad in Computer Engineering. Summer 2015
- Ranked 3^{rd}, National Graduate Entrance Exam in CS. (amongst more than 5000 students) Spring 2015
- Ranked 15^{th}, National Graduate Entrance Exam in Computer Engineering, Software Engineering, Algorithms and Computations. (amongst more than 18000 students) Spring 2015