# Hamed Saleh

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| Research Interests | |
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| | • Sublinear Algorithms |
| | • Massively Parallel Computation |
| | • Distributed/Parallel Computing |

**Education**

**University of Maryland**, College Park, MD. GPA: 3.97/4          2018 - present
Department of Computer Science
Ph.D. in Computer Science, under supervision of Prof. Hajiaghayi
Thesis: Sublinear Algorithms for Processing Massive Datasets

**Sharif University of Technology,** Tehran, Iran. GPA: 16.57/20          2012 - 2017
Department of Computer Engineering
B.Sc. in Computer Engineering

**Research Experience**

**Research Assistant** at Algorithms Laboratory          2018 - present
University of Maryland, College Park, MD
*Under supervision of Prof. M. HajiAghayi*
Working on distributed/massively parallel algorithms for graph/combinatorial problems.

Visiting Researcher          Summer 2021
**Toyota Technological Institute**, Chicago, IL
*Under supervision of Research Assistant Prof. Saeed Seddighin*
On sublinear update time algorithms for the Dynamic Subset Sum problem.

Visiting Graduate Student          Fall 2018
**Simons Institute for Theory of Computing**, Berkeley, CA
*Foundations of Data Science program*

Undergraduate member of **CE Algorithm Laboratory**          2016 - 2017
Sharif University of Technology, Tehran, Iran
*Under supervision of Prof. M. Ghodsi*
Working on the problem of fair allocation of indivisible goods

**Publications**

**Adaptive Massively Parallel Constant-round Tree Contraction**          ITCS'22
*MohammadTaghi HajiAghayi, Marina Knittel,*
*Hamed Saleh, Hsin-Hoa Su*
Preprint available at arXiv:2111.01904

**Massively Parallel Algorithms for String Matching**          SPAA'21
**with Wildcards**
*MohammadTaghi HajiAghayi, Hamed Saleh, Saeed Seddighin, Xiaorui Sun*
Preprint available at arXiv:1910.11829

**Computational Analyses of the Electoral College:**          AAAI'21
**Campaigning is Hard But Approximately Manageable**

*Sina Dehghani, Hamed Saleh, Saeed Seddighin, Shang-Hua Teng*

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| **Streaming and Massively Parallel Algorithms for Edge Coloring** | ESA'19 DISC'19 |

*Soheil Behnezhad, Mahsa Derakhshan, MohammadTaghi Hajiaghayi*
*Marina Knittel, Hamed Saleh*

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| **Externalities and Fairness** | WWW'19 |

*Mohammad Ghodsi, Hamed Saleh, Massoud Seddighin*

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| **In Progress Papers** | **Dynamic Subset Sum with Truly Sublinear Update Time** *Hamed Saleh, Saeed Seddighin* | submitted 2021 |
| | **Massively Parallel Suffix Trees and Applications** *Jacob Gilbert, MohammadTaghi HajiAghayi, Hamed Saleh, Saeed Seddighin* | submitted 2021 |
| | **Improved Adaptive Massively Parallel Algorithms for Cut Problems** *MohammadTaghi HajiAghayi, Marina Knittel, Jan Olkowski, Hame Saleh* | submitted 2021 |

**Honors and Awards**

ACM-ICPC, International Collegiate Programming Contest by ACM.

- 15th **Team** in the 39th ACM-ICPC World Finals.      2015
  Marrakech, Morocco
- 27th **Team** in the 37th ACM-ICPC World Finals.      2013
  St. Petersburg, Russia
- 1st, 2nd, 1st **Team** in Regional Contests of ACM-ICPC West Asia Region, Tehran Site, respectively in 2012, 2013 and 2014.

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| Awarded University of Maryland **Dean's fellowship** . University of Maryland, College Park, MD | 2018 - 2019 |
| **Gold Medal** in the 20th Iranian National Olympiad in Informatics. | 2010 |
| Awarded as **Outstanding Student** by the university president. Sharif University of Technology, Tehran, Iran | 2013 |
| Recipient of the Grant for Undergraduate Studies. from the Iran's National Elites Foundation, for outstanding academic success. | 2012 - 2017 |

**Technical Skills**

- **Operating Systems**: Mac, Linux, and Windows.
- **Typesetting**: LaTeX, Microsoft Office, and LibreOffice.
- **Programming Languages**: C/C++, Python, Go, Java, Bash, and MATLAB.
- **Web Technologies**: HTML5, CSS3, Django, node.js, and angularjs.
- **DevOps tools and other**: Docker, Kubernetes, CI tools, Spark, redis, Mongodb, Rabbitmq, Celery.

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| **Work Experience** | **Professional Software Engineer** | |
| | • **Software Engineer Intern** at Page Bites Inc.<br>Member of the team developing and maintaining<br>the instant messenger imo.im. | Summer 2020 |
| | • **Software Engineer** at Cafe Bazaar Co.<br>Member of the Search project of Cafe Bazaar, dealing with<br>Information Retrieval and Natural Language Processing challenges. | 2016 - 2018 |
| | • **Software Engineer** at Lyan Co.<br>Started an online marketing platform startup. | 2015 |
| | • **Android Developer Intern** at Rahnema Co.<br>Participant in Rahnema Co. Android Development Camp. | 2013 |
| | **Open Source Software Developer** | |
| | • tps with Kian Mirjalali<br>A command line tool for preparing programming problems. | 2017 |
| | • site-admin with Mohammad Amin Khashkhashi Moghadam<br>A graphical interface for monitoring and managing nodes in a contest hall. [1] | 2017 |
| | • HelliJudge with Mahrud Sayrafi.<br>A programming competition judge with focus on security. | 2011 |
| **Teaching Experience** | **Teaching Assistant**<br>University of Maryland, College Park | 2018 - present |
| | • Discrete Structures, Spring 2020 | |
| | • Introduction to Algorithms, Spring 2018, Spring 2019, and Fall 2019 | |
| | • Introduction to Computer Systems, Fall 2018 and Fall 2021 | |
| | **Teaching Assistant**<br>Sharif University of Technology | 2014 - 2016 |
| | • Compiler Design, Spring 2016 | |
| | • Design and Analysis of Algorithms, Fall 2015 and Spring 2014 | |
| | • Object Oriented Design, S. Foroughi, Fall 2015 | |
| **Other Activities** | **External reviewer** for computer science conferences.<br>*COCOON'18, ISAAC'18, WWW'20, FSTTCS'20, SODA'21, ESA'21, DISC'21.* | 2018 - present |
| | Member of **Scientific Committee** of Programming Competitions<br>*Designing contests and authoring problems with algorithmic theme*<br>IOI 2017, ACM-ICPC Regional Contests, INOI, and Sharif AI Challenge | 2013 - 2017 |

*last modified on Nov, 2021*

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[1] tps and site-admin are part of IOI 2017 tools developed by the host technical committee.