Parham Ghasemloo Gheidari

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Research Interests

- Citizen Science
- Computational Biology & Bioinformatics
- Machine Learning & Deep Learning
- Game Theory
- Stochastic Processes & Probability Models
- Information Theory

Education

PhD in Computer Science, McGill University, Montréal, Canada 2020 – ongoing
Waldispühl Group, Structural Bioinformatics and Citizen Science Lab
CGPA: 3.8/4

- Courses: NLP, Human Computation and Citizen Science, Intelligent Software Systems, Probabilistic Graphical Models, Reinforcement Learning

BSc in Computer Engineering, Sharif University of Technology, Tehran, Iran 2015 – 2020
Major: Software Engineering
CGPA: 17.65/20

- Courses: Computer Networks, Game Theory, Advanced Programming, Operating Systems, Discrete Structures, Engineering Probability and Statistics, Information Theory, Data Structures and Algorithms, Computer Architecture

Publications

- **Learning the Game: Decoding the Differences Between Novice and Expert Players in a Citizen Science Game With Millions of Players.** Cai, E., Sarrazin-Gendron, R., Mutalova, R., **Ghasemloo Gheidari, P.**, Blanchette, M., Caisse, S., Knight, R., Szantner, A., Waldispühl, J. – FDG, 2024
- **Improving microbial phylogeny with citizen science within a mass-market video game** Sarrazin-Gendron, R., **Ghasemloo Gheidari, P.**, et al. – Nature Biotechnology, 2024 [Full text]
- **Player-Guided AI outperforms standard AI in Sequence Alignment Puzzles** Mutalova, R., Sarrazin-Gendron, R., **Ghasemloo Gheidari, P.**, Cai, E., Caisse, S., Knight, R., Blanchette, M., Szantner, A., Waldispühl, J. – Collective Intelligence Proceedings, 2023 [Full text]
- **Playing the System: Can Puzzle Players Teach us How to Solve Hard Problems?** Mutalova, R., Sarrazin-Gendron, R., Cai, E., Richard, G., **Ghasemloo Gheidari, P.**, et al. – CHI '23 [Full text]

Research Experience

Research Assistant, Borderlands Science Project, Waldispühl Group Sep 2020 – Ongoing
Research Apprentice, Bioinformatics Research Lab, Sharif University Jun 2017 – Feb 2020
Supervisor: Prof. S.A. Motahari
Summer Intern, Comp. Bio. Lab, Simon Fraser University Jul 2018 – Dec 2019
Supervisor: Prof. Leonid Chindelevitch

- Improved deconvolution models for pathogen strain heterogeneity

Skills

Languages: Python, Java, C, C++
Scripting: MATLAB, JavaScript
Data Analysis: Pandas, NumPy
Databases: PostgreSQL
Typesetting: LaTeX, MS Word
Operating Systems: Linux, Windows
Familiar with: C#, R, Unity

Teaching Experience

McGill University

- TA – COMP 302 "Programming Languages and Paradigms", Winter 2025 (Jacob Errington)
- TA – COMP 250 "Introduction to Computer Science", Winter 2025 (Giulia Alberini)
- TA – COMP 204 "Comp. Programming for Life Sciences", Fall 2024 (David Becerra)
- Head TA – COMP 330 "Computer Systems", Fall 2024 (Jérôme Waldispühl)
- Head TA – COMP 251 "Algorithms and Data Structures", Winter 2024 (David Becerra)
- TA – COMP 204 "Comp. Programming for Life Sciences", Winter 2024 (David Becerra)
- TA – COMP 462/561 "Computational Biology Methods and Research", Fall 2023 (Mathieu Blanchette & David Becerra)
- TA – COMP 204 "Comp. Programming for Life Sciences", Fall 2023 (Mathieu Blanchette & David Becerra)
- TA – COMP 251 "Algorithms and Data Structures", Winter 2023 (David Becerra)
- Head TA – COMP 251 "Algorithms and Data Structures", Winter 2022 (Jérôme Waldispühl)
- TA – COMP 204 "Comp. Programming for Life Sciences", Fall 2022 (David Becerra)
- TA – COMP 251 "Algorithms and Data Structures", Winter 2022 (David Becerra)
- TA – COMP 598 "Machine Learning for Biomedical Data", Fall 2021 (Danilo Bzdok)
- TA – COMP 462/561 "Computational Biology Methods and Research", Fall 2021 (Yanlin Zhang & Esaie Kuitche Kamela)

Sharif University of Technology

- Head TA (Mgmt.) and Project Designer – ce40254 "Data Structures and Algorithms", Fall 2019 (Dr. Masoud Sedighin)
- Designer of Assignments – ce40456 "Game Theory", Fall 2019 (Prof. Fazli)
- Project Design and Grading – ce40327 "Algorithmic Game Theory", Spring 2019 (Dr. Masoud Sedighin)
- Product Owner and Project Grading – ce40418 "Analysis and Design of Systems", Spring 2019 (Prof. Fazli)
- TA Session Teacher, Grader Assistant, and Designer of Assignments – ce40443 "Computer Networks", Fall 2018 (Prof. Jafari)
- Grader Assistant and Designer of Assignments – ce40181 "Engineering Probability and Statistics", Spring 2018 (Prof. Jafari)
- TA Session Teacher – ce40153 "Fundamentals of Programming (Python)", Spring 2018 (Eshaghi)
- Designer of Assignments – ce40153 "Fundamentals of Programming (Python)", Fall 2017 (Sajjadmanesh)
- Designer of Assignments and TA Session Teacher – ce40254 "Data Structures and Algorithms", Fall 2017 (Prof. Ghodsi)
- Grader Assistant and Designer of Assignments – ce40244 "Advanced Programming (Java)", Spring 2017 (Mazloumi)

Technical Experience

Game Design and Prototyping, Sharif AI Challenge — Nov 2017 – Dec 2017
Sharif AI Challenge 2018 coding contest

Course Projects

- MuJoCo Hopper RL Agent, Python, Reinforcement Learning, May 2022
- *Children of Time*, RPG game in Java, Advanced Programming, Jul 2016
- CPU & Cache System in Quartus, Computer Architecture, Jun 2017
- Linux Shell in C, Operating Systems, Fall 2017
- Onion Routing Network (RSA), Python, Computer Networks, Fall 2017
- Scrum Online Shop System, Analysis and Design of Systems, Fall 2018
- Advanced Search Engine, Python, Modern Information Retrieval, Fall 2019

Other Work Experience

Violin Tutor, Sharif Music Group Sep 2017 – Jul 2018

Honors and Awards

- Ranked 43rd among 180,000+ in Iranian National University Entrance Exam (Konkoor), Engineering, 2015

Languages

- Persian: Native
- Azeri: Native
- English: Fluent (TOEFL iBT: 115/120 — R:30, L:30, S:26, W:29)
- French: Intermediate

Interests

- Video Games
- Violin and Cello
- Singing
- Basketball

References

Available upon request.