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 — 2020 - ongoing
McGill University, Montréal, Canada
Waldispühl Group
Structural Bioinformatics and Citizen Science lab
CGPA: 3.8/4

- Select Courses: Natural Language Processing, Human Computation and Citizen Science, Intelligent Software Systems, Probabilistic Graphical Models, Reinforcement Learning.

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

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

PUBLICATIONS Peer-reviewed papers:

- Eddie Cai, Roman Sarrazin-Gendron, Renata Mutalova, **Parham Ghasemloo Gheidari**, Mathieu Blanchette, Sébastien Caisse, Rob Knight, Attila Szantner, Jérôme Waldispühl. *Learning the Game: Decoding the Differences Between Novice and Expert Players in a Citizen Science Game With Millions of Players.* Accepted at Foundations of Digitial Games, February 2024.
- Roman Sarrazin-Gendron, **Parham Ghasemloo Gheidari**, Alexander Butyaev, Timothy Keding, Eddie Cai, Jiayue Zheng, Renata Mutalova, Julien Mounthanyvong, Yuxue Zhu, Elena Nazarova, Chrisostomos Drogaris, Kornel Erhart, Gearbox Software Borderlands Science consortium, Borderlands Science players, Amélie Brouillette, Gabriel Richard, Randy Pitchford, Sébastien Caisse, Mathieu Blanchette, Daniel McDonald, Rob Knight, Attila Szantner, Jérôme Waldispühl. *Improving microbial phylogeny with citizen science within a mass-market video game*, Nature Biotechnology, April 2024.Full text
- Renata Mutalova, Roman Sarrazin-Gendron, **Parham Ghasemloo Gheidari**,

Eddie Cai, Sébastien Caisse, Rob Knight, Mathieu Blanchette, Attila Szantner, Jérôme Waldispühl. *Player-Guided AI outperforms standard AI in Sequence Alignment Puzzles*, Collective Intelligence Proceedings, 2023. Full text

- Renata Mutalova, Roman Sarrazin-Gendron, Eddie Cai, Gabriel Richard, **Parham Ghasemloo Gheidari**, Sébastien Caisse, Rob Knight, Mathieu Blanchette, Attila Szantner, and Jérôme Waldispühl. *Playing the System: Can Puzzle Players Teach us How to Solve Hard Problems?*, In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). Full text

RESEARCH EXPERIENCES

Research Assitant - Borderlands Science Project — Sep 2020 - ongoing
Waldispühl Group

Research Apprentice at Bioinformatics Research Lab — Jun. 2017 - Feb. 2020
Supervised by Prof. S.A. Motahari
Department of Computer Engineering, Sharif University of Technology

Summer Research Intern at Comp. Bio. Lab — Jul. 2018 - Dec. 2019
Supervised by Prof. Leonid Chindelevitch
School of Computing Science, Simon Fraser University

- Exploring and implementing a mathematical concept aimed at improving the time efficiency and accuracy of an existing project titled 'Deconvoluting the within-host heterogeneity of pathogen strains'. Paper to be submitted.

SKILLS

Programming Languages: Python, Java, C, C++
Scripting Languages: MATLAB, JavaScript
Data Analysis: Pandas, numpy
Database: postgresql
Typesetting: LATEX, MS Office Word
Operating Systems: Linux and MS Windows
Familiar with: C#, R, Unity

TEACHING EXPERIENCES

Teacher Assistance

McGill University:

- Head TA
  COMP 251 "Algorithms and Data Structures", David Becerra, Winter 2024
- Grading, Forum duty, and Office Hours
  COMP 204 "Comp. Programming for Life Sciences", David Becerra, Winter 2024
- Grading, Forum duty, and Office Hours
  COMP 462/561 "Computational Biology Methods and Research", Mathieu Blanchette & David Becerra, fall 2023
- Grading, Forum duty, and Office Hours
  COMP 204 "Comp. Programming for Life Sciences", Mathieu Blanchette & David Becerra, Fall 2023
- Testing Assignments, Grading, Forum duty, and Office Hours
  COMP 251 "Algorithms and Data Structures", David Becerra, Winter 2023

- Head TA
  COMP 251 "Algorithms and Data Structures", Jérôme Waldispühl, Winter 2024
- Grading, Forum duty, and Office Hours
  COMP 204 "Comp. Programming for Life Sciences", David Becerra, Fall 2022
- Testing Assignments, Grading, Forum duty, and Office Hours
  COMP 251 "Algorithms and Data Structures", David Becerra, Winter 2022
- Designing Assignments, Grading, Forum duty, and Office Hours
  COMP 598 "Machine Learning for Biomedical Data", Danilo Bzdok, Fall 2021
- Grading, Forum duty, and Office Hours
  COMP 462/561 "Computational Biology Methods and Research", Yanlin Zhang & Esaie Kuitche Kamela, Fall 2021

Sharif University of Technology:

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

TECHNICAL EXPERIENCES

Game Design and Prototyping Nov. 2017 - Dec. 2017
at Sharif AI Challenge 2018 Coding Contest

COURSE PROJECTS

- Training a Hopper (MuJoCo) Agent May 2022
  Coded in python
  Course: Reinforcement Learning
- "Children of Time", an RPG game Jul. 2016
  Developed with Java
  Chosen as the project with the best Graphics and UI design
  Course: Advanced Programming

- a Complete Computer System; CPU, Cache, etc. — Jun. 2017
  Developevd with Quartus
  Course: Computer Architecture
- Designing a shell in linux — Fall 2017
  Developed with C
  Course: Operating Systems
- Designing an Onion Routing network system — Fall 2017
  with RSA cryptosystem
  Developed with Python
  Course: Computer Networks
- Designing and Developing an Online Shop system — Fall 2018
  Based on Scrum methodology
  Course: Analysis and Design of Systems
- Developing an Advanced Search Engine — Fall 2019
  Developed with Python
  Course: Modern Information Retrieval

OTHER WORK EXPERIENCES

Violin Tutor at Sharif Music Group — Sep. 2017 - Jul. 2018
Sharif University of Technology

HONORS AND REWARDS

Ranked 43rd in the Nationwide University Entrance Exam known as Konkoor for BSc degree in Engineering among more than 180,000 students, 2015.

LANGUAGES

- Persian: Native
- Azeri: Mothertongue
- English: Fluent
  TOEFL® iBT® Test Score: 115/120
  (Reading:30 Listening:30 Speaking:26 Writing:29)
- French: Basic Knowledge

INTERESTS AND ACTIVITIES

Video Games
Violin and Cello
Singing
Basketball

REFERENCES

Available upon request.