

# GOLNAR GHAROONI FARD

(+1)3035706743 ◊ golnar.gharoonifard@colorado.edu

## EDUCATION

---

**University of Colorado, Boulder, CO, USA** *January 2018 - Present*

PhD in Computer Science

Department of Computer science

Area of Concentration: Computational Modeling of Complex Adaptive Systems

Current CGPA: 3.8

**Islamic Azad University, Arak, Iran** *January 2006 - August 2009*

M.Sc. of Computer engineering

Department of Computer science and Engineering

Area of Concentration: Applied Chaos and Optimization Algorithms

Thesis: Evaluating Chaos-Genetic mapping algorithm (CGMAP) as an optimization method to solve NoC mapping problem

**Islamic Azad University, Mashhad, Iran** *September 2001 - January 2006*

B.Sc. of Computer Engineering

Area of Concentration: Computer Hardware and electronics

Thesis: Design and implementation of smart control boards for remote monitoring in electronic farms

## TEACHING EXPERIENCE

---

**University of Colorado, Boulder, CO, USA** *January 2018 - September 2019*

Graduate Teaching Assistant at Computer Science Department

Courses: Computer Systems

**Ghadir Higher Education Institute, Iran** *September 2014 - January 2017*

Lecturer, Computer and Electronics Department

Courses: Computer Architecture, Assembly Programming, Data Structures

**University of Applied Sciences and Technology, Iran** *September 2014 - January 2016*

Lecturer, Computer Science Department

Courses: Computer Networks, Discrete Mathematics, Assembly Language

**Islamic Azad University, Damavand, Iran** *September 2012 - January 2013*

Lecturer, Computer Science Department

Courses: Computer Networks, Operating Systems

**Ferdows Higher Education Institute, Mashhad, Iran** *September 2010 - January 2012*

Lecturer, Computer Science and Engineering Department

Courses: Introduction to Programming, Data Structures

## RESEARCH EXPERIENCE

---

**Graduate Research Assistant** *September 2018 - Present*

Peleg Lab – University of Colorado, Boulder

Research focus: Dynamics of Collective behavior in honeybees

**Research Assistant** *September 2008 - January 2011*

Islamic Azad University, Tehran, Iran

Research focus: Network-on-Chip, Computational Optimization Algorithms

## MENTORSHIP EXPERIENCE

---

### High School Students Mentor

Science Discovery's STEM Research Program, University of Colorado, Boulder

May 2019 - Present

## VOLUNTEER EXPERIENCE

---

### English-Persian Translator

TED.com, Coursera.org

- Persian subtitles for talks and courses

September 2014 - Present

## TECHNICAL STRENGTHS

---

**Programming:** MATLAB, Python, NetLogo

**Skills:** Computational Modeling, Topological Data Analysis, Image Processing, ML

## PRESENTATIONS

---

### A Persistent Homology Approach for Characterizing Honeybee Behavior during Food Exchange

*Poster*

G. Gharooni Fard, V. Deshmukh, E. Bradley, C. Topaz, O. Peleg

May 2021

IMSI Conference on Topological Data Analysis.

### An Integrated Experimental-modeling Approach to Resource Sharing in Honeybee Swarms,

*Poster*

G. Gharooni Fard, E. Bradley, C. Gorgemans, O. Peleg

October 2020

Robotic-inspired Biology workshop at the International Conference on Intelligent Robots and Systems, IROS(2020).

### Data-Driven Modeling of Distributed Resource Sharing in Honeybee Swarms

*Extended Abstract*

G. Gharooni Fard, E. Bradley, O. Peleg

June 2020

ACM Collective Intelligence Conference (CI2020), Boston, MA, USA.

### On the Efficiency of Food Exchange via Trophallaxis; An Agent-Based Modeling Approach

*Poster*

G. Gharooni Fard, E. Bradley, C. Gorgemans, O. Peleg

March 2019

SIAM Conference on Applications of Dynamical Systems, 2019, Snowbird, UT, USA.

### Modeling Trophallaxis Behavior in Honeybees

*Lightening Talk*

November 2018

G. Gharooni Fard, E. Bradley, O. Peleg

SINNERS 2018, Drexel University, Philadelphia, PA, USA.

### Evaluating the performance of a chaos genetic algorithm for solving the network on chip mapping problem

*Paper Presentation*

June 2010

G. Gharooni Fard, F. Moein-darbari, A. Khademzadeh,

International Conference on Computational Science (ICCS 2010), Amsterdam, Netherlands.

## SELECTED PUBLICATIONS

---

### Robustness of Collective Scouting in the Presence of Physical Obstacles.

June 2021

Nguyen DMT, G. Gharooni Fard G, Iuzzolino ML, Peleg O

*In Proceeding of the 4th International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM2021).*

**Data-Driven Modeling of Distributed Resource Sharing in Honeybee Swarms**

*July 2020*

G. Gharooni Fard, E. Bradley, O. Peleg

*In Proceeding of Artificial Life Conference 2020, The MIT Press Journals, NO.32, pp. 324-332.*

**A new Approach to Network on Chip Mapping Problem Using Chaos Genetic Algorithm**

*May 2011*

G. Gharooni Fard, F. Moein-Darbari

Book chapter: *Computational Optimization and Applications in Engineering and Industry*, Springer, Berlin, Heidelberg, pp. 245-270.

**Scheduling of Scientific Workflows Using Chaos Genetic Algorithm**

*September 2010*

G. Gharooni Fard, F. Moein-Darbari, H. Deldari, A. Morvaridi

*In proceeding of International Conference on Computational Science (ICCS 2010), Vol.1, No.1, pp. 1445-1454.*

**Evaluating the Performance of Chaos Genetic Algorithm in Solving NoC Mapping Problem**

*January 2010*

F. Moein-Darbari, A. Khademzade, G. Gharooni Fard

*In proceeding of IEEE International Conference on Computational Science and Engineering, Vancouver, Canada. Vol.2, pp. 366-373.*

**Evaluating the Performance of One-dimensional Chaotic Maps in NoC Mapping Problem**

*August 2009*

G. Gharooni Fard, A. Khademzade, F. Moein-Darbari

*IEICE Electronic Express, Vol.6, No.12, pp. 811-817.*

**CGMAP: A New Approach to NoC Mapping Problem**

*January 2009*

F. Moein-Darbari, A. Khademzade, G. Gharooni Fard

*IEICE Electronic Express, Vol.6, No.1, pp. 27-34.*