

Farshad Ghanei

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INFORMATION Illinois Institute of Technology
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RESEARCH INTERESTS Energy Aware Systems, Embedded and Mobile Systems, Robotics
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EDUCATION

- Ph.D. Computer Science and Engineering, University at Buffalo, New York, USA Fall 2019
- M.Sc. Electrical Engineering, University at Buffalo, New York, USA Spring 2015
- B.Sc. Electrical Engineering, Sharif University of Technology, Iran Fall 2012

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ACADEMIC EXPERIENCE

- **Assistant Teaching Professor**, Illinois Institute of Technology Fall 2023 - Present
 - CS 350 Computer Organization and Assembly Language Programming, Undergraduate (Fall 2023)
 - CS 351 Systems Programming, Undergraduate (Fall 2023)
- **Assistant Professor of Teaching**, University at Buffalo Spring 2020 - Summer 2023
 - CSE 421/521 Introduction to Operating Systems, Undergraduate/Graduate (Spring 2020, Fall 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023)
 - CSE 468/568 Robotics Algorithms, Undergraduate/Graduate (Fall 2020, Spring 2021, Spring 2022, Fall 2022)
 - CSE 341 Computer Organization, Undergraduate (Spring 2021, Fall 2021, Fall 2022, Spring 2023)
 - CSE 490/590 Computer Architecture, Undergraduate/Graduate (Spring 2020)
- **Instructor**, University at Buffalo Spring 2019
 - CSE 421/521 Introduction to Operating Systems, Undergraduate/Graduate
- **Research Assistant**, University at Buffalo Spring 2014 - Fall 2019
- **Teaching Assistant**, University at Buffalo
 - Fall 2023, Spring 2014, Fall 2017, Spring 2018
- **Teaching Assistant**, Sharif University of Technology, Tehran, Iran
 - Fall 2010, Fall 2011, Spring 2011, Fall 2011, Spring 2012
- **Teacher**, High Schools and Junior High Schools (Farzanegan and Allameh Helli), Tehran, Iran
 - Logic Circuits, Robotics, C++, Pascal and Delphi Fall 2008 to Spring 2013

INDUSTRIAL
EXPERIENCE

- **Google Inc.**, Kirkland, Washington, USA
 - ⇨ Software Engineering Intern Summer 2020
Secure and high-integrity file system for confidential computing applications
- **ETick (Electronic Ticket) Pars Intelligent Technologies Company**, Tehran, Iran
 - ⇨ Embedded Software Engineer Sep 2012 to Aug 2013
Firmware for a mobile payment device
 - ⇨ Researcher (Payment Systems) Summer 2012
 - ⇨ Intern (Image Processing) Summer 2010

PUBLICATIONS

- **Farshad Ghanei**, Jalil Modares, Nicholas Mastronarde, Karthik Dantu, "Minimum Energy Coverage Path Planning for UAVs", (**Under submission**).
- Adam Czerniejewski, John Henry Burns, **Farshad Ghanei**, Karthik Dantu, Yu David Liu, Lukasz Ziarek, "Safe Flight Control for UAVs through Managed Languages", *Robotics and Autonomous Systems*, (**Under review**).
- Adam Czerniejewski, John Henry Burns, **Farshad Ghanei**, Karthik Dantu, Yu David Liu, Lukasz Ziarek, "JCopter: Reliable UAV Software Through Managed Languages", *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '21)*, September 2021, Prague, Czech Republic.
- **Farshad Ghanei**, Pranav Tipnis, Kyle Marcus, Karthik Dantu, Steven Ko, Lukasz Ziarek, "OS-based Energy Accounting for Asynchronous Resources in IoT Devices", *IEEE Internet of Things Journal*, vol. 6, no. 3, pp. 5841-5852, June 2019.
- Matthew Rantanen, Jalil Modares, Nicholas Mastronarde, **Farshad Ghanei**, Karthik Dantu, "Performance of the Asynchronous Consensus Based Bundle Algorithm in Lossy Network Environments", *IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, July 2018, Sheffield, UK.
- Jalil Modares, **Farshad Ghanei**, Nicholas Mastronarde, Karthik Dantu, "UB-ANC Planner: Energy Efficient Coverage Path Planning with Multiple Drones", *IEEE International Conference on Robotics and Automation (ICRA '17)*, May 2017, Singapore.
- **Farshad Ghanei**, Pranav Tipnis, Kyle Marcus, Karthik Dantu, Steven Ko, Lukasz Ziarek, "OS-based Resource Accounting for Asynchronous Resource Use in Mobile Systems", in *Proceedings of the 2016 International Symposium on Low Power Electronics and Design (ISLPED '16)*, pp 296-301, August 2016, San Francisco, CA.

STUDENTS
SUPERVISED

- Venkata Sai Kiran Yelchuri, MS in Engineering Science, Department of Mechanical and Aerospace Engineering, University at Buffalo. **Thesis:** "Expert Motion Replication in Humanoid Agent using Deep Reinforcement Learning" Spring 2023
- Vivek Vijay Wadegaonkar, MS in Engineering Science, School of Engineering and Applied Sciences, University at Buffalo. "Flexible ROS system for ORB-SLAM 3" Fall 2022
- Ian Kaminer, MS in Robotics and Artificial Intelligence, School of Engineering and Applied Sciences, University at Buffalo. "An Implementation of Deep Deterministic Policy Gradient for Robotic Motion" Fall 2021
- James Wilson, MS in Engineering Science, School of Engineering and Applied Sciences, University at Buffalo. "Human-Robot Interaction for Accessibility: Application of Computer Vision and Motion Tracking" Spring 2021
- Sivashanmugam Saravanan Omprakash, MS in Engineering Science, School of Engineering and Applied Sciences, University at Buffalo. "Study of Deep Learning based Optical Flow Estimation Methods" Spring 2021

SERVICE AND
OUTREACH

- Program Committee Member, IEEE Systems and Technologies for Remote sensing Applications Through Unmanned aircraft Systems (STRATUS) Workshop, Rochester May 2023
- MAE Lecturer Recruiting Committee, University at Buffalo Spring 2023
- CSE Lecturer Recruiting Committee, University at Buffalo Fall 2021 to Spring 2023
- Technical Program Committee Member of 5th International Workshop on Wireless Sensors and Drones in Internet of Things, Wi-DroIT 2023, Coral Bay, Pafos, Cyprus June 2023
- Technical Program Committee Member of 4th IEEE WoWMoM Workshop on Wireless Networking, Planning, and Computing for UAV Swarms, SwarmNet 2022, Belfast, United Kingdom Jun 2022
- Technical Program Committee Member of 4th International Workshop on Wireless Sensors and Drones in Internet of Things, Wi-DroIT 2022, Marina Del Rey, LA, California May 2022
- Technical Program Committee Member of 3rd International Workshop on Wireless Sensors and Drones in Internet of Things, Wi-DroIT 2021, Virtual Event Jul 2021
- Technical Program Committee Member of 3rd IEEE WoWMoM Workshop on Wireless Networking, Planning, and Computing for UAV Swarms, SwarmNet 2021, Virtual Event Jun 2021
- Technical Program Committee Member of International Conference on Intelligent Vehicles, ICoIV 2020, Berlin, Germany Sep 2020
- Technical Program Committee Member of 2nd IEEE WoWMoM Workshop on Wireless Networking, Planning, and Computing for UAV Swarms, SwarmNet 2020, Cork, Ireland Aug 2020
- Technical Program Committee Member of 6th ACM Workshop on wearable systems and applications, WearSys 2020, Toronto, Canada Jun 2020
- Technical Program Committee Member of 2nd International Workshop on Wireless Sensors and Drones in Internet of Things, Wi-DroIT 2020, Marina Del Rey, Los Angeles, CA Jun 2020
- Technical Program Committee Member of 1st IEEE WoWMoM Workshop on Wireless Networking, Planning, and Computing for UAV Swarms, SwarmNet 2019, Washington D.C. Jun 2019
- Vice President/secretary of Graduate Student Association of the Department of Computer Science and Engineering, University at Buffalo Nov 2016 to Oct 2018
- Co-Hosting ARTY2017 (The Art, Robotics, and Technology for Youth summer robot workshop) for middle school students with *Prof. D. Burhans* from Canisius College, Buffalo, NY Jul 2017
- Hosting CS Ed-Week Robotics Demo at UB, for elementary, and middle school students Designing simple activities for students to accomplish using Ozobot robotic platform Dec 2016
- Member of International Orientation, University at Buffalo 2014 to 2016
- Member of Review Council for MDRF (Mark Diamond Research Fund) Mar 2016
A grant from UB Graduate Student Association, to graduate students for their research.
- Teaching *Nearu Martial Art and Self Defense* to students 2013 to Present

HONORS AND
AWARDS

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- **Career Initiation Award** Dec 2020
Department of Computer Science and Engineering, University at Buffalo
 - **Faculty Choice Award** May 2020
Department of Computer Science and Engineering, University at Buffalo
 - **Graduate Teaching Award** Dec 2019
Department of Computer Science and Engineering, University at Buffalo
 - **Best Graduate Leadership Award** Dec 2017
Department of Computer Science and Engineering, University at Buffalo Department of Computer Science and Engineering, University at Buffalo
 - **Black Belt Dan III** in *Nearu Martial Art*, Dedicated Instructor 2013 to Present