

### Education

- Sep. 2022–  
present **PhD in Computer Science**, *University of Galway*, Galway, Ireland
- Sep. 2017–  
Feb. 2020 **M.Sc. in Micro and Nano Electronic Devices/Electronic Engineering**, *Razi University*, Kermanshah, Iran  
**GPA: 17.35/20 (3.88/4) (Ranked 1<sup>st</sup>)**
- Sep. 2013–  
Aug. 2017 **B.Sc. in Electrical and Electronic Engineering**, *Razi University*, Kermanshah, Iran  
**GPA: 16.31/20 (3.29/4) (Ranked 4<sup>th</sup>)**

### Research Interests

- Reinforcement Learning
- Evolutionary Robotics
- Robotic
- Machine Learning
- Deep Learning
- Neural Network

### Publications

#### Journal

- **“FPGA based digital implementation of an optimized CNN for object counting application”** J. Shianifar, Gh. karimi. [*under review*]
- **“Majority Convolutional Neural Networks(MCNN) for Diagnosing Covid-19 from Chest XRay Image”** J. Shianifar, Gh. karimi. [*under review*]
- **“ Persian/Arabic Handwritten Digit Recognition using with Convolution Neural Network”** J. Shianifar, Gh. karimi. [*to be submitted*]

#### Conference

- **“ Implementation of an MLP neural network with GSA algorithm on FPGA as hardware in the loop”** J. Shianifar, Gh. karimi, 1st Sharif Neuroscience Symposium. [*Mar 2020*]

#### Book

- **“ Learning VHDL Language + FPGA Hardware”** J. Shianifar, ISBN:9786008899631, Mied andishe pub. (Book in Persian). [*2018*]

### Research Experience

- May 2020–  
May-2021. **Research Assistant**, *Investigate a method for diagnosis of Covid-19 using in deep learning*  
Department of Electrical Engineering, Razi University, Kermanshah, Iran.  
Under the Supervision of **Prof. Karimi**  
A deep learning method was used to diagnose Covid-19 based on a chest X-ray. In this study, a new layer was introduced for convolutional neural networks. This is a prelude to finding efficient and reliable methods and structures for diagnosis in sensitive cases such as medicine.

Sep 2017– Feb 2020. **Electronic Engineering M.Sc. Project, *Implementation of Deep Convolution Neural Network on FPGA***

Department of Electrical Engineering, Razi University, Kermanshah, Iran.  
Under the Supervision of **Prof. Karimi**

Methods for optimizing the convolutional neural network (CNN) for implementation on FPGA for embedded applications are presented. The effectiveness of these methods in the CNN for implementation on cheaper hardware has been evaluated. Finally, in order to prove the effectiveness of the proposed method, a real-time object counting network has been implemented and evaluated.

Sep. 2016– Sep. 2017. **Electronic Engineering B.Sc. Project, *Smartwatch***

Department of Electrical Engineering, Razi University, Kermanshah, Iran.  
Under the Supervision of **Dr. Radmalekshahi**

Design, programming and implementation of smartwatches using microcontrollers with the ability to connect to mobile (along with android application) to display notifications and transfer information to mobile. It has various sensors such as GPS, air pressure, heart rate, 3-axis gyroscope, temperature and humidity.

## Teaching Experience:

### Lecturer

2021- 2022 Digital Systems Lab. I , Razi University  
Fall 2017 AVR, Razi University  
Fall 2018 Arduino, Razi University

2021- 2022 Digital Systems Lab. II, Razi University  
Fall 2017 VHDL and FPGA, Razi University  
Fall 2018 Robotic, Razi University

### Research Assistant

2018-2021 Digital Systems Lab. I, Dr. M.Shahbazi

2015-2021 Digital Systems Lab. II, Dr. M.Shahbazi

### Teacher Assistant

Spring 2022-23 Algorithm, **Dr. Mason**  
Fall 2017 Microprocessor, **Dr. Radmalekshahi**  
Fall 2015 Digital Systems I, **Dr. Ahmadi**

Fall 2019 VLSI, **Prof. Karimi**  
Fall 2017 Digital Systems II, **Dr. Radmalekshahi**  
2016-2018 Digital Systems I, **Dr. Zarjam**

## Related Courses

### Graduate Courses

CMOS 18/20  
Technology of semiconductor devices 19/20  
Advanced Engineering Mathematics 18.25/20  
Biomedical instruments 16.5/20

VLSI 17/20  
Manufacture of MEMS 18.25/20  
Semiconductor devices 16.25/20  
Digital Image Processing Audited

### Undergraduate Courses

Digital Systems 1 19.75/20  
Digital Systems 2 19.5/20  
Microprocessor Systems Design 19.5/20  
Computer Programming 18.5/20  
Digital Control Systems 16.3/20

Digital Systems 1 Lab 20/20  
Digital Systems 2 Lab 20/20  
Numerical Computation 19/20  
Fundamentals of Entrepreneurship 20/20  
Telecommunication Networks 18.4/20

### Online Courses

Machine Learning Sololearn  
Internet of things Edapt  
Robotics Edapt

C++ Sololearn  
Machine Learning Edapt  
Python Kaggle

## Awards and Honors

- 2022 Awarded College of Science and Engineering scholarship for PhD, University of Galway
- 2021 Nano Diploma in Artificial Intelligence, Edapt Learning App
- 2020 **3<sup>th</sup> palce** at the 12<sup>th</sup> International Harkat Festival, Ministry of Science, Research and Technology.
- 2020 **Ranked 1<sup>st</sup>** among M.Sc. students of the Electronic Engineering Programs, Department of Electrical and Electronic Engineering, Razi University.
- 2017 **Ranked 4<sup>th</sup>** among B.Sc. students, Department of Electrical and Electronic Engineering, Razi University.

- 2016 Awarded fellowship of exceptional talents of Razi University (Accepted to master's program at Razi University being exempted from the National Qualifications Entrance Exam)
- 2013 **Ranked in the top 5%** among nearly 300,000 participants of the Iranian National University Entrance Exam.

## Work Experience

- 2023 **IEEE 2023 Congress on Evolutionary Computation**  
Reviewer
- 2022 **IEEE Symposium Series On Computational Intelligence**  
Reviewer
- 2021–2022 **Razi University**  
Lecturer
- 2019–2022 **Shaho Electronic Technology Ltd. company**  
Co-founder and CEO of the company. Works as a manager of programming and system design department.
- 2019–present **Journal of Iranian Association of Electrical and Electronics Engineers (jiaeee)**  
Reviewer
- 2022 **2022 IEEE World Congress on Computational Intelligence**  
Reviewer
- Summer 2016 **Telecommunication Company of Iran**  
Worked as an intern in the design, maintenance, and research and development departments.
- Summer 2015 **hadron technology company**  
Worked as a designer and programmer of digital circuits and microcontrollers.
- Summer 2015 **Bookloop Startup**  
Co-founder and CEO of the startup.
- Summer 2015 **Dahgan Startup**  
Worked as a designer and programmer of digital circuits and microcontrollers.
- 2015–2022 **Freelance**  
Works as a freelance hardware, web and mobile programmer.

## Technical Skills

- Programming Languages  
Advanced: Python, Matlab, VHDL, Verilog, PHP, Latex  
intermediate: C++, JavaScript, Android/IOS
- Software  
Advanced: VREP, ISE, Vivado, Quartus, Proteus, Altium Designer, Cadence  
Intermediate: COMSOL
- Hardware  
Advanced: FPGA, AVR, ARM, ESP, Arduino  
Intermediate: STM, PLC

## Languages

- English Duolingo: Total Score: **130**. *Literacy [135], Comprehension [145], Conversation [115], Production [100]*
- Persian Native
- Kurdish Fluent

## Membership

- 2020-Present Member of **Eltiam Charity**.
- 2019 Secretary of the Organizing Committee of the 10th International Student Festival of Harkat , Ministry of Science and Research.
- 2019 Member and Vice President of the **National Scientific Student's Organization of Electrical Engineering (NSSOEE)**.
- 2016-2020 Managing Director and Editor of Razi University Silicon Scientific Journal
- 2013-2020 Member and Head of Razi University Electrical Engineering Student Scientific Association
- 2012-2022 Member of **iranian red crescent**.

## References

- **Karl Mason**, Assistance Professor, Department of Computer Science, University of Galway, Galway, Ireland. Email: karl.mason@universityofgalway.ie
- **Gholamreza Karimi**, Professor, Department of Electrical and Electronic Engineering, Razi University, Kermanshah, Iran. Email: ghkarimi@razi.ac.ir
- **Mohsen Hayati**, Professor, Department of Electrical and Electronic Engineering, Razi University, Kermanshah, Iran. Email: hayati@razi.ac.ir
- **Mazdak Radmalekshahi**, Assistance Professor, Department of Electrical and Electronic Engineering, Razi University, Kermanshah, Iran. Email: m.malekshahi@razi.ac.ir
- **Arash Ahmadi**, Assistance Professor, Department Of Electronics, Carleton University, Ottawa, Canada. Email: ArashAhmadi3@cunet.carleton.ca