Sina Asadiyan Zargar

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Place of birth: Tabriz, Iran ✳ *Date of birth:* 12-08-1992

Education

Ph.D student in Electrical Engineering   *October 2020 - Present*
PhD dissertion
Sharif University of Technology - Artificial Creatures Lab (ACL) Final
grade: 17.42/20
Thesis title: Supervised Quantum Machine Learning in Hilbert Spaces
Ph.D Advisor: Dr. S. Bagheri Shouraki

Master's degree in Electrical Engineering   *October 2016 - September 2019*
Master's degree program
Iran University of Science and Technology - Computer Vision Lab
Final grade: 15.86/20
Thesis title: FPGA-based Human Action Recognition using Deep Learning

Bachelor's degree in Electrical Engineering   *October 2010 - November 2015*
Bachelor's degree program
Tabriz University
Final grade: 13.6/20
Project: Controlling Elevator of a 7 Floor Building with PLC

Work Experience

Internship at Simcat Co.   *Summer 2014*
Control and Maintenance Department   *Tabriz, Iran*

Sharif University of Technology (SUT)   *2019 - 2021*
Teaching Assistant at Electrical Departmnet   *Tehran, Iran*

- Pulse Techniques and Digital Circuits (3x)
- Fuzzy Systems (2x)

Tabriz University   *2013 - 2014*
Teaching Assistant at Electrical Department   *Tabriz, Iran*

- Electronics I

Research Interest

Quantum Machine Learning
QML and Quantum Computing
Quantum machine learning is the integration of quantum algorithms within machine learning programs. The most common use of the term refers to machine learning algorithms for the analysis of classical data executed on a quantum computer based on Quantum Mechanics.

Computer Vision Using AI and Deep Learning

Computer vision systems combine image processing with machine learning and deep learning techniques. Developers use different software and AI algorithms to create a multi-step process, a computer vision pipeline.

FPGA Implementation of Deep Learning Models

FPGAs have been recently adopted for accelerating the implementation of deep learning networks due to their ability to maximize parallelism and their energy efficiency. In fact, FPGAs have been used as accelerators for deep learning networks. FPGA chips enable you to reprogram logic gates. You can use FPGA technology to overwrite chip

Selected Projects

FPGA Implementation of MobileNet V1   *2020*
Successfully defeated my MSc Thesis at IUST   *Tehran, Iran*
Developed an AI Targeted cloud based AWS F1 FPGA for Human Action Recognition using several techniques to accelerate the algorithm such as quantization and Batch-Norm layer fusion.

Semantic Segmentation of Camvid Dataset using UNet-based Networks   *2021*
Proud Member   *Tehran, Iran*
Semantic Segmentation is one of main research fields related to Autonomous driving. Multiple DL architectures with different ResNet backbones are tested in this project and reported the results.

Technical skills

Programming Languages	Python, C/C++, Verilog, CUDA, OpenCL, PLC, LaTeX
Tools/ Hardware	ARM and AVR Microcontrollers, AMD Xilinx FPGA, GPU (CUDA)
ML Frameworks	PyTorch, Fastai
Quantum Frameworks and Libraries	OpenQSM, Qiskit, Pennylane

Language proficiencies

English	Proficient
Persian	Fluent
Turkish	Fluent

Honors

Placed Top 1% among Participants in Iranian Graduate and undergraduate University entrance exams

Publications

کتاب   **بینایی نهفته،اصول و کاربردها - مولف : سینا اسدیان زرگر**

چاپ شده در انتشارات ناقوس

Deep Learning for Audio: A Comprehensive Journey from Theory to Deployment

مقاله   اسدیان زرگر, نعیمه و سینا اسدیان زرگر، ۱۳۹۳، مدل فعالیت های امداد و نجات در زمان-مکان با استفاده از سیستم هوشمند ساختمان، نخستین همایش ملی سیستم های هوشمند مدیریت ساختمان با رویکرد بهینه سازی مصرف انرژی، قزوین، سازمان نظام مهندسی ساختمان استان قزوین، -https://www.civilica.com/Paper-QBMS01 QBMS01_001.html