

Masood Nekoie
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Education

PhD Electrical Engineering – Purdue University (Spring 2024-Ongoing)

Research Assistant

- Quantum field Theory
- Computational Electromagnetics

Courses:

- *CEM*
- *Quantum Mechanics*

PhD Electronic Engineering (GPA:4/4)– Carleton University (Fall 2021)

Research Assistant

- Quantum Computing Application in Electromagnetic problems
- Variational Quantum Algorithm (VQA) for solving linear equation problems
- Developing Hamiltonian Simulation in Python/MATLAB
- Developing HHL algorithm in Python

Courses:

- *Method of Moments: CEM 4/4*
- *Advanced linear and nonlinear circuits 4/4*
- *Neural networks for Electrical Circuits 4/4*

MSc. Fields And Waves (GPA: 3.8/4)– Amirkabir University of Technology (2017-2020)

- **Thesis:** A Methodology for THz Complex Material Characterization based on CSRR metamaterials and the Formulation of the Behavior by ABCEP as a prediction method
- Developing CST and MATLAB automatic communication
- Coding GP and ABCP automatic programming methods

Courses:

- *Microwave measurement*
- *Metamaterials*

- *Advanced Microwave Radar systems*
- *Advanced Electromagnetic*

BSc. Electrical Engineering (Communication) – Isfahan University of Technology (2013-2017)

- Project: EEG Simulation based on FPGA programming

Selected Courses:

- Analog Communications
- Digital Communication
- Electronics 1-2
- FPGA Programming Lab
- Electromagnetic Field and Waves
- Digital 1, 2 (AVR Programming)

Publications (22 Citations / h-index 3):

- **Author:** Developing ABCEP as a new automatic programming method **8 Citations / First method**
(<https://doi.org/10.1016/j.ins.2020.09.020>: *Information sciences Journal*, IF= 6.795)
 - **7 Citations / Second Author:** Modeling the carbonation depth of recycled aggregate concrete using a novel automatic regression technique
(<https://doi.org/10.1016/j.jclepro.2022.133522>: *Cleaner Production Journal*, IF: 9.297)
 - **7 Citations / Second Author:** Application of artificial bee colony programming techniques for predicting the compressive strength of recycled aggregate concrete
(<https://doi.org/10.1016/j.asoc.2022.109641>: *Applied Soft Computing Journal*, IF= 6.725)
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Experience

RF Engineer and High Frequency Programmer – Mobin Saman Company IRAN (Fall 2018-Fall 2020)

- PLL designer based on DDS analog devices
- Designing Automatic Frequency Shifter based on communication of FPGA-AVR gates and programmable analog devices
- Sharp filter designer
- General circuits debugging
- Developing Interface platform for users with low knowledge of RF and waves (MATLAB & Visual Basics GUI)

ELECTRICAL ENGINEER – INTELLICOM COMPANY IRAN (Winter 2020- 2021)

- MATLAB, AVR, FPGA and Arduino developer
- Developing Online Cameras recorder application with specific user requirements
- Debugging and repairing faulty network systems such as routers and switches
- Developing new electronic bus ticket cards using Arduino
- Qt & Python Programmer

Teacher Assistant

- Electronic 1 LAB - Carleton University

Lab teacher:

- MOSFET, BJT, Diode, Multisim Software

- Electrical Circuits LAB - Carleton University

Lab Teacher:

- Signal filtering and amplification. Time and frequency domain. Circuit design and simulation.

- Communication Circuits LAB - Amirkabir University of Technology

Lab Teacher:

- Modulator and Demodulators, FM, AM, Oscillator

- FPGA LAB - Amirkabir University of Technology

Lab Teacher:

- MATLAB & FPGA communication, VGA implementation, UART protocol, ISE, Verilog & VHDL

Skills & Abilities

- *MATLAB*
- *FPGA (Verilog & VHDL)*
- *C (Programming Language)*
- *Optimization (GA, ABC, Ant, ICA)*
- *Neural Networks*
- *Quantum Computing (Python Cirq)*
- *Visual Basics*
- *CST (Simulation & Visual Basic programming to communicate with MATLAB or other platforms)*
- *ADS*
- *Python Programming*
- *Machine Learning (Automatic Programming: GP, ABCP, GEP, ABCEP)*
- *Qt*

References

- *Weng Cho Chew wcchew@purdue.edu
Supervisor, Professor Purdue University*
- *Luis Gomez ljgomez@purdue.edu
Supervisor, Professor Purdue University*
- *Emadaldin Mohammadi Golafshani E.Mohammadi.Golafshani@gmail.com
Post-Doctorial Fellowship Monash University*
- *Morteza Nekooei cisco.ir@gmail.com
CEO at Intellicom Company (www.Intellicom.ir)*