

Armin Ahmadkhaniha

| Quantum Software Developer
(PhD student at Computer Science)

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● ArminAhmadkhaniha

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Education Background

Mcmaster University, Hamilton, Ontario, Canada

PhD Student, Computer Science

Sep 2024 – Present

Research: Development of state-of-the-art Quantum Algorithms and Quantum Software

University of Tehran, Tehran, Iran

Master of Electrical Engineering, Micro-Nano Electronics, GPA: 18.18/20

Sep 2021 – Jun 2024

Thesis: Survey of DQNN and its applications

(NISQ compatible error correction using modified DQNN)

Supervisors: Dr. H. Aghababa / Dr. M. Kolahdouz

Imam Khomeini International University (IKIU), Qazvin, Iran

Bachelor of Electrical Engineering (Telecommunication), GPA: 15.15/20

Sep 2016 – Feb 2021

Thesis: Microstrip Fed Log-Periodic Balun Printed Dipole (Grade=18.5/20)

Supervisor: Dr. S. Jarchi

Extra-Thesis: Enable-based Quantum Teleportation scheme

Publications / Projects

Nov 2023: NISQ Compatible Error Correction of Quantum Data using Modified DQNN (Phys. Rev. A)

Aug 2023: Performance Analysis of the Hardware-Efficient Quantum Search Algorithm (Springer)

Sep 2023: Enhancing Quantum Teleportation: An Enable-Based Protocol (Springer)

Jul 2022: Bidirectional Quantum Teleportation using 2n Bell states (Springer)

May 2023: Efficient controlled quantum broadcast protocol using 6n-qubit cluster state (Springer)

Dec 2024– present: Constant time sampling in Learning with Error (LWE) problem and cryptographic scheme

Mar 2025– present: Real transform (Hartley, Sin and Cos transform) on Quantum Computer

Mar 2025– present: Quantum Graph Convolutional Neural Networks (QGCN) for unsupervised learning on Artificial Genom

Mar–Jul 2023: Survey of QGAN and its applications (Role: Mentor)

Mar–Jul 2023: Survey of Quantum Image Processing (NEQR, FRQI, edge detection) (Role: Mentor)

Mar–Apr 2020: Image processing using MATLAB

Jun–Sep 2021: Microstrip antenna design using CST

Jun–Jul 2021: SIW antenna design using HFSS

Honors and Awards

Feb 2023: Ranked 3rd among Nanoelectronics MSc students, University of Tehran

Jul 2021: Top 1% among 30,000 participants of National Entrance Exam in Electrical Engineering (64th in Micro-Nano Electronics)

Sep 2021: Full MSc Scholarship in Micro-Nanoelectronics, University of Tehran

Sep 2016: Full BSc Scholarship in Electrical Engineering, IKIU

Languages

English: Fluent (TOEFL 97: Writing 27, Speaking 22, Listening 25, Reading 23)

French: B1

Persian: Native

Work Experience

Research Assistant

Mcmaster University

RA

2024–present

Crypto-Quantum Lab

University of Tehran

RA

2022–2024

Quantum Computations and Comm. Lab (QCCL). Mentored 30+ students. Instructor: Qiskit/Pennylane survey. Published 5 papers

Teaching Assistant

Mcmaster University

TA

2024

Applied Cryptography

Mcmaster University

TA

2025

Performance Analysis of Computer Systems

University of Tehran

TA

2022–2024

Quantum Machine Learning, Quantum Computing, Quantum Optics, Solid State Devices

College of Farabi, University of Tehran

TA

2022

Quantum Computing

Research Mentor

Qworld Organization, QIran Branch

Board Member

2022–2024

Mentored projects on QGAN and Quantum Image Processing

Course Instructor

Sharif University of Technology, Resana Association

Instructor

Aug–Sep 2023

QML Summer School (540 students, 97 graduates)

Skills

Python, Matlab, C++, HTML, Javascript

References

Dr. Jake Doliskani, Assistant Prof., Mcmaster University ([Email](#))

Dr. Hossein Aghababa, Associate Prof., University of Tehran ([Email](#))

Dr. Mohammadreza Kolahdouz, Associate Prof., University of Tehran ([Email](#))

Dr. Zahra Shaterzadeh Yazdi, Assistant Prof., University of Tehran ([Email](#))