



Curriculum Vitae

Personal Data:

Name	Surname	Date of Birth	Nationality	Sex
Avaz	Naghipour	01/12/1972	Iranian	Male

Telephone	Fax	E-mail
+989143100624	41-34442097	anaghipourir@gmail.com; naghipour@ucna.ac.ir

Educational Background: (Last One First)

Certificate Degree	Field of Specialization	Name of Institution Attended	Date Received	Supervisor
PhD	Applied Mathematics (Computer Systems)	University of Tabriz, Tabriz-Iran (Daily Period)	12/09/2015	Prof. M.A. Jafarizadeh
M.Sc.	Applied Mathematics (Numerical Optimization)	University for Advanced in Basic Sciences, Zanjan-Iran (Daily Period)	10/06/2000	Prof. B. Mehri from Sharif University of Technology

Title of Post-Graduate Thesis: Numerical Solution of Elliptic Equations using Finite Differences Method	Mark: 19.50 out of 20
Title of Doctorate Thesis: Algebraic Construction of Quantum Stabilizer Codes (Quantum Error Correction)	Mark: 19.94 out of 20

Teaching Experiences: (Last One First)

Title of Course	Level	Dates		Name of Institution
		From	To	
<i>Computer Concepts and Operating Systems</i>	<i>B.Sc.</i>	<i>2000</i>	<i>2010</i>	<i>University College of Nabi Akram</i>
<i>Probability and Statistics for Engineering</i>	<i>B.Sc.</i>	<i>2000</i>	<i>2010</i>	<i>University College of Nabi Akram</i>
<i>Mathematical Modeling</i>	<i>B.Sc.</i>	<i>2000</i>	<i>2010</i>	<i>University College of Nabi Akram</i>
<i>Operations Research</i>	<i>B.Sc.</i>	<i>2006</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Engineering Mathematics</i>	<i>B.Sc.</i>	<i>2009</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Engineering Mathematics</i>	<i>B.Sc.</i>	<i>2002</i>	<i>2008</i>	<i>Islamic Azad University of Tabriz</i>
<i>Programming with C ++</i>	<i>B.Sc.</i>	<i>2002</i>	<i>2008</i>	<i>Islamic Azad University of Tabriz</i>
<i>Discrete Mathematics</i>	<i>B.Sc.</i>	<i>2002</i>	<i>now</i>	<i>Islamic Azad University of Tabriz</i>
<i>Foundations of Internet</i>	<i>M.Sc.</i>	<i>2002</i>	<i>2008</i>	<i>Islamic Azad University of Tabriz</i>
<i>Internet Engineering</i>	<i>M.Sc.</i>	<i>2002</i>	<i>2008</i>	<i>Islamic Azad University of Tabriz</i>
<i>Calculus and O.D.E</i>	<i>M.Sc.</i>	<i>2000</i>	<i>2002</i>	<i>Azarbaijan Tarbiat Moallem University</i>
<i>Software Engineering</i>	<i>B.Sc.</i>	<i>2010</i>	<i>2015</i>	<i>University of Tabriz</i>
<i>Research and Technical Presentation</i>	<i>B.Sc.</i>	<i>2010</i>	<i>now</i>	<i>University of Tabriz and UCNA</i>
<i>Swarm Intelligence Algorithms</i>	<i>M.Sc.</i>	<i>2014</i>	<i>now</i>	<i>University College of Nabi Akram and IAUT</i>

<i>Random Processes</i>	<i>M.Sc.</i>	<i>2014</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Integer Linear Programming</i>	<i>M.Sc.</i>	<i>2014</i>	<i>2016</i>	<i>Islamic Azad University of Tabriz</i>
<i>Mathematical Programming</i>	<i>M.Sc.</i>	<i>2014</i>	<i>now</i>	<i>Islamic Azad University of Tabriz</i>
<i>Statistical Pattern Recognition</i>	<i>M.Sc.</i>	<i>2014</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Seminar</i>	<i>M.Sc.</i>	<i>2014</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Digital Image Processing</i>	<i>M.Sc.</i>	<i>2016</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Information Theory and Coding</i>	<i>M.Sc.</i>	<i>2016</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Computer Simulation</i>	<i>B.Sc.</i>	<i>2014</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Signals and Systems</i>	<i>B.Sc.</i>	<i>2014</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Performance Evaluation of Computer Systems</i>	<i>M.Sc.</i>	<i>2019</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Probabilistic Graphical Models</i>	<i>M.Sc.</i>	<i>2022</i>	<i>now</i>	<i>University College of Nabi Akram</i>
<i>Queueing Theory</i>	<i>M.Sc.</i>	<i>2022</i>	<i>now</i>	<i>University College of Nabi Akram</i>

Administrative Responsibilities: (Last One First)

Job Title	Place of Work	Date		Name of Institution
		From	To	
<i>Deputy</i>	<i>Department of Computer, UCNA</i>	<i>2000</i>	<i>2002</i>	<i>University College of Nabi Akram, Tabriz-Iran</i>
<i>Office Manager Connection with Industry</i>	<i>University College of Nabi Akram, Tabriz-Iran</i>	<i>2009</i>	<i>2013</i>	<i>University College of Nabi Akram, Tabriz-Iran</i>
<i>Research Director and International Affairs</i>	<i>University College of Nabi Akram, Tabriz-Iran</i>	<i>Sep. 2018</i>	<i>May 2025</i>	<i>University College of Nabi Akram, Tabriz-Iran</i>
<i>Head of Department of Computer Engineering</i>	<i>University College of Nabi Akram, Tabriz-Iran</i>	<i>Mar. 2022</i>	<i>now</i>	<i>University College of Nabi Akram, Tabriz-Iran</i>

Academic Positions: (Last One First)

Title of Position	Field of Specialization	Date		Name of Institution
		From	To	
<i>Lecturer</i>	<i>Computer Science</i>	<i>Sep. 2000</i>	<i>Sep. 2015</i>	<i>University College of Nabi Akram, Tabriz, Iran</i>
<i>Assistant Professor</i>	<i>Computer Science and Quantum Computing</i>	<i>Sep. 2015</i>	<i>Dec. 2024</i>	<i>University College of Nabi Akram, Tabriz, Iran</i>
<i>Associate Professor</i> (It has been approved by the Board of Trustees of the University of Tabriz with the maximum number of votes.)	<i>Computer Science and Quantum Computing</i>	<i>Dec. 2024</i>	<i>now</i>	<i>University College of Nabi Akram, Tabriz, Iran</i>

Bachelor and Master Thesis Supervision:

No	Full Name of Student	Level	Title of Thesis
<i>1</i>	<i>Zahra Ahmadi</i>	<i>B.Sc.</i>	<i>Virtual Education System</i>
<i>2</i>	<i>Zainar Fayeghi</i>	<i>B.Sc.</i>	<i>Status of IT in developed countries and the analysis and implementation diagrams</i>

3	<i>Navid Fajri</i>	<i>B.Sc.</i>	<i>Software Design for Shoe Store with VB.net</i>
4	<i>Parvaneh Mosavian</i>	<i>B.Sc.</i>	<i>Web site Design 40rd Iranian Mathematics Conference with ASP.net</i>
5	<i>Ghasem Zarghampour</i>	<i>M.Sc.</i>	<i>Simulation of Railway Line Guiding by Evolutionary Algorithms</i>
6	<i>Elham Zinaly</i>	<i>M.Sc.</i>	<i>Efficient Methods of Audio Steganography to Protect the Confidential Information</i>
7	<i>Samira Alipour</i>	<i>M.Sc.</i>	<i>The Design of Debutanizer Tower of a Refinery Unit using Fuzzy Models</i>
8	<i>Masoumeh Bakhsheshi</i>	<i>M.Sc.</i>	<i>Social Recognition in Social Networks using Support Vector Machine Algorithm</i>
9	<i>Peyman Fatemi Bress</i>	<i>M.Sc.</i>	<i>Development a New Algorithm Based on Fuzzy Logic to Reduce Energy Consumption and Increase the Lifetime in Wireless Sensor Networks</i>
10	<i>Seyed Morteza Mousavi</i>	<i>M.Sc.</i>	<i>An Efficient Intrusion Detection System Based on Ensemble of Decision Trees and Gradully Feature Removal Method</i>
11	<i>Masoumeh Kordoghli Siabani</i>	<i>M.Sc.</i>	<i>Quality Enhancement and Processing Speed of Remote Sensed Imagery using Distributed Genetic Algorithm</i>
12	<i>Farzad Farazi</i>	<i>M.Sc.</i>	<i>Design and Implementation of IOT-Based Air Pollution Monitoring System</i>
13	<i>Morteza Ramezanzade</i>	<i>M.Sc.</i>	<i>Improvement of Neighborhood Repulsed Correlation Metric Learning for Identification of Kinship with Fixed Face Images</i>
14	<i>Shahryar Rezaei Bokani</i>	<i>M.Sc.</i>	<i>Identifying Influential Users in Large Social Network Graphs using Multi-Objective Meta-Heuristic Algorithm</i>
15	<i>Saeed Donboli</i>	<i>M.Sc.</i>	<i>On the Placement of Controllers in Software-Defined-WAN using the Gray Wolf</i>
16	<i>Rahim Pasbani</i>	<i>M.Sc.</i>	<i>Road' Signs Recognition using Convolutional Neural Networks</i>
17	<i>Mohammad Taghipour</i>	<i>M.Sc.</i>	<i>Using Intelligence Path Control for Minimizing Energy Consumption in Hybrid SDN</i>
18	<i>Hamid Moslemi</i>	<i>M.Sc.</i>	<i>Attack and Anomaly Detection in IoT by Dimension Reduction and Distributed Machine Learning</i>
19	<i>Sedigheh Esmailzadeh</i>	<i>M.Sc.</i>	<i>Road Recognition with Convolutional Neural Network and Random Markov Model</i>
20	<i>Seyed Yaghoub Hashemi</i>	<i>M.Sc.</i>	<i>Privacy Proximity Detection in Mobile Social Network based on Security Consideration with SHA-256</i>
21	<i>Azam Fallahi</i>	<i>M.Sc.</i>	<i>Position-based Emergency Message Dissemination for Internet of Vehicules from Logic and Multi-Objective Optimization</i>
22	<i>Ramin Shahi</i>	<i>M.Sc.</i>	<i>Detection of Diseases from Human Eye Iris Imges using Machine Learning</i>
23	<i>Shirin Pourhamzeh</i>	<i>M.Sc.</i>	<i>Prediction of Telemarketing Results Based on S-Kohonen Network and WOA Algorithm in Kaveh Tikeme Dash Steel Company</i>
24	<i>Reza Bahmani</i>	<i>M.Sc.</i>	<i>Improving Connectivity Between Cloud Networks and Edges Based on Reducing Energy Consumption and Error in Data Transmission</i>
25	<i>Seyedeh Negar Yaghoub Azari</i>	<i>M.Sc.</i>	<i>Comparison of Evaluation of Meta-Heuristic Algorithms for Secure Scheduling of Scientific Workflows in Cloud Computing</i>
26	<i>Parastu Honarvar Namin</i>	<i>M.Sc.</i>	<i>Automated Detection of Pulmonary Embolism from Computed Tomography Scans using Deep Learning</i>
27	<i>Narmin Moradi</i>	<i>M.Sc.</i>	<i>Artificial Neural Networks Approach to Prediction of Stock Market Trading Volume</i>
28	<i>Ali Zarezadeh Ardeshir</i>	<i>M.Sc.</i>	<i>Introducing an Improved Image Encryption Scheme Based on Image Secret Sharing and Hyper Chaos Functions</i>

29	<i>Diyar Tekyeh</i>	<i>M.Sc.</i>	<i>Fuzzy Clustering Based Image Segmentation Using Weighted Guided Image Filtering</i>
30	<i>Hamed Rostami</i>	<i>M.Sc.</i>	<i>Using Particle Swarm Optimization for Attack Detection in Extreme Learning Machines</i>
31	<i>Shahin Maleki</i>	<i>M.Sc.</i>	<i>Evaluation of Root Canal Treatment Quality in Dentistry Using Deep Learning in Periapical Radiography Based on Fuzzy Logic</i>
32	<i>Amir Reza Mousighi</i>	<i>M.Sc.</i>	<i>Unsupervised Anomaly Detection in 2D Brain MRI using Deep Learning with Impured Training Data</i>
33	<i>Fereshteh Bahardoust</i>	<i>M.Sc.</i>	<i>Smatening Schools using BMS and Artificial Intelligence</i>
34	<i>Hasan Houshmand</i>	<i>M.Sc.</i>	<i>The Combination of Meta-Heuristic Algorithms and Machine Learning to Improve the Accuracy of Elderly Activity Detection in IoT Smart Homes with Feature Selection Approach</i>
35	<i>Hadi Fekrmand</i>	<i>M.Sc.</i>	<i>Predicting the Daily Behavior of Insured Persons and Employers in a Social Security Organization using Machine Learning</i>
36	<i>Fardin Noruzi</i>	<i>M.Sc.</i>	<i>Design and Implementing Hardware-Software MQTT-Based Platform to Increase the Efficiency of Computer System Battery Charge in IoT</i>
37	<i>Reza Bahmani Zangi</i>	<i>M.Sc.</i>	<i>Improving Connectivity between Cloud Networks and Edges based on Reducing Energy Consumption and Error in Data Transmission</i>

Publications:

A: Books

Title	Type of Work		Publisher	Date of Publication
	Translation	Compilation		
<i>Advanced Engineering Mathematics</i>		✓	<i>UCNA</i>	<i>2005</i>
<i>Computer Concepts and Operating Systems</i>		✓	<i>UCNA</i>	<i>2006</i>
<i>Algebraic Construction of Binary Quantum Stabilizer Codes</i>		✓	<i>LAMBERT Academic Publishing GmbH&Co.KG, Germany</i>	<i>2016-01-30 ISBN: 978-3-659-82141-7</i>
<i>Web Development with Django: A Comprehensive Project-Based Guide from Basic Concepts to Constructing Advanced Applications with Django</i>		✓	<i>UCNA International Press</i>	<i>2025</i>

Publications:

B: Papers

Title of Paper	Journal	Date of Publicati
Application of the Laplace Adomian decomposition and implicit methods for solving Burgers' equation	TWMS J. Pure Appl. Math., 6 68-77	2015
Quantum stabilizer codes from Abelian and non-Abelian groups association schemes	Int. J. Quantum Inf., 13 p.1550021 (26 pages) (JCR)	2015
Topological quantum codes from self-complementary self-dual graphs	Quantum Inf. Processing, 14 4057-4066 (JCR)	2015
Classes of quantum codes derived from self-dual orientable embeddings of complete multipartite graphs	Quantum Inf. Processing, 16:296 1-14 (JCR)	2017
Audio Steganography to Protect the Confidential Information: A Survey	International Journal of Computer Applications, 169 22-29	2017
New classes of quantum codes on closed orientable surfaces	Cryptography and Communications, 11 999-1008 (JCR)	2019
A new intelligent intrusion detector based on ensemble of decision trees	Journal of Ambient Intelligence and Humanized Computing, 13 , 3347–3359, (JCR)	2022
Construction of quantum codes from new embeddings of graphs on compact surfaces	Optical and Quantum Electronics, 40 , 1-9 (JCR)	2020
Construction of new quantum color codes	Quantum Physics Letters, 11 , 37-43	2022
Recognizing traffic signs with synthetic data and deep learning	BOHR International Journal of Computational Intelligence and Communication Network, 1 , 1-9	2022
New Quantum Color Codes Based on Hyperbolic Geometry	Journal of Quantum Computing, 4 , 113-120	15 May 2023
Introduction to Statistical Pattern Recognition and Its Applications	PriMera Scientific Engineering, 2.3 (2023): 01 Type: Editorial	3 March 2023
Probabilistic Graphical Models: A Modern Approach	PriMera Scientific Engineering, 5.2 (2024): 01 Type: Editorial	26 June 2024
Optimizing UPVC profile production using adaptive neuro-fuzzy inference system	International Journal of Information Technology (Scopus)	27 Sep.2024
Quantum Stabilizer Codes with Optimal Parameters	PriMera Scientific Engineering, 5.6 (2024): 01 Type: Editorial	26 Nov. 2024
Presenting a new model for rapid diagnosis of acute respiratory diseases using machine learning algorithms	Information Technology in Engineering Design, Vol. 16, No. 2, 2024, 87-106	6 May 2024
Machine Learning Classifiers and Data Synthesis Techniques to Tackle with Highly Imbalanced COVID-19 Data	Journal of Computer and Knowledge Engineering, Vol. 7, No. 2, 2024, 51-64	2024
Predicting the market influenced by consumer sentiments using artificial intelligence	Journal of Intelligent Marketing Management (JIMM), 6 , 66-83(ISC)	21 Mar. 2025

Presenting an intelligent, machine learning-based method with commercialization capabilities for identifying diseases from human eye iris images	Journal of Intelligent Marketing Management (JIMM), 6, 188-205(ISC)	23 Oct. 2025
An Overview of Fault-Tolerant Computer Systems	PriMera Scientific Engineering, 7.4 (2025): 01 Type: Editorial	4 Oct. 2025

Research Activities:

Title of Project	Place of Work	Dates	
		Fromm	To
Finite Difference Methods for Numerical Solution of Burgers' Equation	UCNA	20/05/2013	02/09/2015

Research Interests: Cryptography, Digital Image Processing, Fuzzy Systems, Computer Systems Security, Pattern Recognition, Quantum Computing

Papers Presented at National and International Scientific Assemblies:

Title of Paper	Title and Place of Assembly	Date
Eigenvalues of Tridiagonal Toeplitz and Pseudo- Toeplitz Matrics	33 rd Iranian Mathematics Conference Ferdowsi University of Mashhad, Iran	2002
Using the Method of Matrix for Solving of Singular Perturbations Differential Equations	The Forth Seminar on Differential Equations and Dynamical Systems	2000
Solving Nonsingular Perturbation Differential Equations	The 10th Seminar on Mathematical Analysis and its Applications	2000
Medical Image Enhancement using Wavelet and Fuzzy C-Mean	International Conference on Graphic and Image Processing October 1-3, 2011, Cairo, Egypt	2011
Binary Construction of Quantum Codes from Self-dual Orientable Embeddings of K_r , $K_{r,s}$ and $K_{rs,s,s}$	Proceedings of ISER 6 th International Conference, Sydney, Australia, ISBN: 978-93-85465-99-4	12 th September 2015
Classes of Binary Quantum Codes Associated with Self-dual Orientable Embeddings of Complete Graphs	Iranian Conference on Mathematical Physics, November 3, 2016, Qom University Technology, Qom, Iran	2016
Construction of binary quantum codes on closed orientable surfaces	The 13 th International Conference on Finite Fields and their Applications, Hotel Serapo, Gaeta (Italy)	June 4-10, 2017
Development a New Algorithm based on Fuzzy Logic to Reduce Energy Consumption in Wireless Sensor Networks	Second National Conference Major Infrastructure of Electrical Engineering, Tehran, Iran	May 9, 2018
Quantum Codes Construction from Self-Dual Orientable Embeddings of Complete Graphs	World Congress on Physics, Dubai, UAE	September 16-17, 2019
A new class of binary quantum codes based on self-dual orientable embeddings of $K_{4s,4s}$	Webinar on Lasers, Optics & Photonics	October 21-22, 2020
Breast Cancer Tumors Diagnosis in Mammography Images using Ripplet	Proceedings of the 26th International Computer Conference, Computer Society of Iran, Tehran, Iran	3-4 March 2021
Construction of Quantum Codes with Large Minimum Distance from Hyperbolic Tessellations	Proceedings of the 4th Asian Conference on Science Tecnology and Medicine, Dubai, UAE	20-21 November 2021

Efficient Vision Transformer for Accurate Traffic Sign Detection	Proceedings of the 13th International Conference on Computer and Knowledge Engineering (ICCKE), Mashhad, Islamic Republic of Iran, Date Added to IEEE Xplore: 27 November 2023	01-02 November 2023
Comparing Classical and Quantum Algorithms in Analyzing NASA Kepler Mission Data	Proceedings of the 6th Asian Conference on Science, Technology & Medicine	25-26 February 2025
Predicting Images of Exoplanets Using Quantum Generative Adversarial Networks	3rd International Conference on Quantum Materials and Technologies - "ICQMT2025", Ölüdeniz-Fethiye/Muğla, Türkiye	April 26 to May 3, 2025

Awards, Honorary Degrees, Medals and Positions:

Title of Award, Medal, Position	Issuing Authority	Country	Year
Outstanding graduate student in M.Sc.		Iran	2000
Outstanding student in PhD		Iran	2015

Membership to Scientific Associations:

Name of Institution/Association	Position Held	Country	Year
<i>American Mathematical Society</i>	<i>Associate</i>	<i>USA</i>	<i>1998-now</i>
<i>Mathematical Society of Iran</i>	<i>Regular</i>	<i>Iran</i>	<i>2000-now</i>
<i>IEEE</i>	<i>Regular</i>	<i>USA</i>	<i>2020-now</i>
<i>Mendeley</i>	<i>Regular</i>	<i>UK</i>	<i>2020-now</i>

Journal Referee:

Name of Magazine	ISSN	Country	Publisher Name
<i>Quantum Information Processing</i>	<i>1570-0755</i>	<i>USA</i>	<i>Springer</i>
<i>Reports on Progress in Physics</i>	<i>0034-4885</i>	<i>UK</i>	<i>IOP</i>
<i>IEEE Communications Letters</i>	<i>10897798</i>	<i>USA</i>	<i>IEEE</i>
<i>Journal of Ambient Intelligence and Humanized Computing</i>	<i>18685137</i>	<i>Germany</i>	<i>Springer</i>
<i>IEEE Access</i>	<i>21693536</i>	<i>USA</i>	<i>IEEE</i>
<i>Electronics Letters</i>	<i>00135194, 1350911X</i>	<i>UK</i>	<i>IET</i>
<i>Discover Data</i>	<i>2731-6955</i>	<i>China</i>	<i>Springer</i>

Language Proficiency:

Language	Degree of Proficiency											
	Writing				Reading				Speaking			
	Native	Good	Fair	Poor	Native	Good	Fair	Poor	Native	Good	Fair	Poor
<i>Azeri</i>		✓				✓			✓			
<i>Farsi</i>		✓				✓				✓		
<i>English</i>		✓				✓				✓		
<i>Arabic</i>			✓			✓					✓	

Selected Papers

- [1] Quantum stabilizer codes from Abelian and non-Abelian groups association schemes, Int. J. Quantum Inf., **13**, p.1550021 (26 pages), 2015.
- [2] Topological quantum codes from self-complementary self-dual graphs, Quantum Inf. Processing, **14**, 4057-4066, 2015.
- [3] Classes of quantum codes derived from self-dual orientable embeddings of complete multipartite graphs, Quantum Inf. Processing, **14**, 1-14, 2017.
- [4] New classes of quantum codes on closed orientable surfaces, Cryptography and Communications, **11**, 999-1008, 2019.
- [5] A new intelligent intrusion detector based on ensemble of decision trees, Journal of Ambient Intelligence and Humanized Computing, **13**, 3347–3359, 2022.
- [6] Construction of quantum codes from new embeddings of graphs on compact surfaces, Optical and Quantum Electronics, **40**, 1-9, 2020.
- [7] Optimizing UPVC profile production using adaptive neuro-fuzzy inference system, International Journal of Information Technology, Published: 27 September 2024.