Curriculum Vitae

Personal Information

- **Name:** Amir Homayoun Jafari
- **Father's Name:** Azim
- **Date of Birth:** ۱۹۷۳
- **Position:** Professor, Department of Medical Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences

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Education

- **High School Diploma:** Mathematics & Physics, Shahid Beheshti High School, GPA: ۱۸,۱۹/۲۰
- **B.Sc.:** Electrical Engineering (Power), Sharif University of Technology, GPA: ۱۷/۲۰
- **M.Sc.:** Biomedical Engineering (Bioelectric), Amirkabir University of Technology, GPA: ۱۹,٤۷/۲۰
- **Ph.D.:** Biomedical Engineering (Bioelectric), Amirkabir University of Technology, GPA: ۱۷/۲۰

Academic Projects

- **B.Sc.:** Application of Neural Networks in Power System Load Flow (Supervisor: Dr. Seyed Hamid Hosseini) – Grade: ۲۰/۲۰
- **M.Sc.:** Implementation of Cerebellum Model using MPIC and Neural Networks (Supervisor: Dr. Farzad Tohidkhah) – Grade: ۲۰/۲۰
- **Ph.D.:** Hierarchical Model with Self-Organizing Control Strategy for Skilled Movements (Supervisor: Dr. Seyed Mohammad Reza Hashemi Golpayegani) – Grade: Excellent

Language Proficiency

- **MCHE Exam:** Score ٦١ (٢٠٠٠)

Teaching Experience

- **١٩٩٨–٢٠٠٩:** Lecturer at Amirkabir University of Technology and Islamic Azad University (Science & Research Branch)
- **٢٠٠٩–present:** Professor at Tehran University of Medical Sciences

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Undergraduate Courses

- Differential Equations
- Engineering Mathematics
- Electronics I–III
- Industrial Electronics
- Pulse Techniques
- Introduction to Biomedical Engineering
- Linear Control Systems
- Logic Circuits
- Computer Architecture
- Electrical Machines I–II
- Computer Control

Graduate Courses

- Neuro-Muscular Control Systems
- Fuzzy Systems
- Biological Control Systems
- Chaos Systems
- Physiological Modeling
- Nonlinear Signal Processing
- Advanced Topics in Biological System Modeling
- Brain-Computer Interfaces (BCI)
- Seminars
- Cancer Modeling

Research Interests

- Biomedical Signal Processing
- Computational Neuroscience
- Nonlinear and Fuzzy Control Systems
- Physiological System Modeling
- Brain-Computer Interfaces
- Control field (Applied Control, Nonlinear Control, RL Reinforcement Control, Hierarchical Control, Chaos Control)
- Artificial Intelligent Systems (Neuro-Fuzzy Control Systems and Neural Networks)
- Diagnosis of Auditory Complications by Analysis of Auditory Evoked Signal (ABR) and OAE Signal
- Modeling of biological systems (Cancer and Tumor-Immune System Modeling, glucose-insulin system modeling, epilepsy modeling and prediction)
- Field of Brain-Computer Interface Systems (BCI)

Course List

- **B.Sc. :** General Mathematics ۱ & ۲, Differential Equations, Engineering Statistics & Probabilities, Engineering Mathematics, General Physics ۱ & ۲, Statics & Strength of Materials, Dynamics, Thermodynamics, Electromagnetism, Computer Programming, Engineering Mapping, Numerical Calculations, Logic Circuits, Computer Architecture, Microprocessors, Electrical Circuits ۱ & ۲, Electronics ۱ & ۲, Electric Machines ۱, ۲ & ۳, Electrical Measurement, Systems Analysis, Linear Systems Control, Telecommunication ۱, Power Systems ۱ & ۲, Power Power Plants, Computer Methods, etc. Application of Power Systems, Protection of Power Systems, Pulse Technique, Industrial Electronics, Special Machines, Advanced Operation of Power Systems, Insulation and High Pressure, Modern Control, Digital Signal Processing
- **MSc:** Discrete Signal Processing, Neural Networks, Modeling of Biological Systems, Control of Neuromuscular Systems, Bioinstrumentation, Processing of Biological Signals, Control of Digital and Nonlinear Systems, Application of Microprocessors in Medical Devices (Special Topics), Anatomy, Physiology
- **Ph.D.:** Adaptive Control, Nonlinear Control, Intelligent Control, Systems Engineering and Cybernetics, Logic and Fuzzy Systems, Advanced Modeling of Biological Systems, Electrophysiology, Advanced Discrete Signal Processing (DSP ۲)

Publications

١. Jafari A.H., Tohidkhah F., Haeri M., "Biped Motion Control Using Predictive Control and Impedance Regulation", ٩th Conference on Electrical Engineering, ١٩٩٩.

٢. Jafari A. H., Hashemi Golpayegani M.R., Tohidkhah F., Fallah A., "Modeling Skill Movements Based on Self-Organizing Control Strategy", Journal of Biomedical Engineering, No. ٣, ٢٠٠٥.

٣. Rahafrouz A., Fallah, Gharibzadeh. and Jafari A.H. , "A Common Computational Model in the Brainstem for Scadic and Follow-up Eye Movements", ١٣th Iranian Conference on Biomedical Engineering, ٢٠٠٦.

٤. Mazdisna S. , Jafari A.e. , "Modeling Cancer Growth in Two Dimensions Using Radial and Branched Cellular Automata", ١٤th Iranian Conference on Biomedical Engineering, ٢٠٠٧.

٥. Tahami S.A. and Jafari A.e., "A Model to Investigate the Role of Velocity and Acceleration Afferent Feedbacks in Joint Dynamics" , ١٥th Iranian Conference on Biomedical Engineering, ٢٠٠٨.

٦. Tahami S.A., Zandi Mehran Y. & Jafari, A.H., "A New Method Based on Fuzzy Algorithm to Control the Lorenz Chaos System", ٢nd Joint Congress of Fuzzy and Intelligent Systems of Iran, ٢٠٠٨.

٧. Tahami S.A. , Zandi Mehran Y. and Jafari, A.e. , "Stabilization of Lorenz Chaos System Using Fuzzy Adaptive Controller", ٢nd Joint Congress of Fuzzy and Intelligent Systems of Iran.١٣٨٧.

٨. Karimi Moredani M. and Jafari, A.e., "A Nonlinear Model for Evaluation of Neuromusculoskeletal Arm Movement Performance", ١٦th Iranian Conference on Biomedical Engineering, ٢٠٠٩.

٩. Noshirvan Rahat Abad F. , Falah A. and Jafari A.e. , "Modeling the Human Arm Considering Two Pros and Contradictions in the Horizon Plane, Adjusting the Model Coefficients Using Genetic Algorithm and Investigating the Accuracy of the Model by Kinematic Recording and Electromyogram Results", ١٦th Iranian Conference on Biomedical Engineering, ٢٠٠٩.

١٠. Ahmadi M. A. , Jafari, A.e. and Mashhadi Malek M. , "Simulation of Type ١ and Type ٢ Diabetes Using Time-Delayed Glucose-Insulin Regulation System Model", ١٦th Iranian Conference on Biomedical Engineering, ٢٠٠٩.

١١. Ahmadi, M. A. , Jafari, A.e., "Control of Nonlinear Predictive Model of Blood Glucose Level and Regulation of Insulin Injection by Fuzzy Method in Type ١ Diabetes", ١٣th Iranian Student Conference on Electrical Engineering, ٢٠١٠.

١٢. Noshirvan Rahat Abad F. , Falah A. and Jafari A.e., "Two-Link Six-Muscle Arm Control Using PID Controller: A Simplified Model of the Human Arm on Horizon Plane", ١٧th Iranian Conference on Biomedical Engineering, ٢٠١٠.

١٣. Ahadi M., Jafarpisheh A.S. , Pourbakht A., Jafari A.H., "Modeling the auditory response of the brainstem to the /da/ speech syllable using fuzzy logic", Audiological, Speech and Language Research, No. ١, scientific-research, ٢٧-٣٣, ٢٠١٣.

١٤. Ahadi M., Pourbakht A., Jafari A.H.Milk of the Lamb., Jafarpisheh A.S., "Neurophysiological Representation of Basal Frequency and Formative Structure of Speech in the Auditory System Using Frequency Persistent Hetty Response", Journal of Audiological, Speech and Language Research, No. ١, Scientific-Research, ١١-١٨, ٢٠١٣.

١٥. Zarandi Operator M.Jarollahi F., separation S., Jafari A.H.,Milk G., Hosseini Keyvanani N., Ahmadi S.M.,Jafarpisheh A.S., "A Study of the Characteristics of Persian Vowels in Clear and Coded Modes, and Its Preliminary Comparison with English Vowels", Journal of Scientific-Research Language and Linguistics، ١١th Period، Spring & Summer ٢٠١٥، Issue ٢١، ١٥٢-١٣٣.

١٦. Vosoughi R., Allahverdi A., Shafikhani S., Jafari A.H., "Modeling of Dual-Delayed Glucose-Insulin System Based on Continuous Non-Invasive System Measurement", Quarterly Journal of Biomedical Engineering, Vol. ١١, No. ٤, Winter ٢٠١٨, ٢٩١-٣٠١.

١٧. Shafikhani S., Mashayekhi Shams A., Bani Hashem S.I., Ghaibi N., Jafari A.H., "Presenting a Mathematical Model for the Immuno-Cancer System Using Fuzzy Parameters", Journal of Biomedical Engineering, Vol. ١٤, No. ١, Spring ٢٠٢٠, ٥٥-٦٧.

١٨. Sabzevari and.R. , Jafari A.e. and Boustani R., "Analysis of Different Hand Motion Speeds Using Recursive Quantitative Analysis and Nonlinear Quantifiers", Journal .of Electrical Engineering, University of Tabriz, Vol. ٥٠, No. ٤, ٢٠٢٠

١٩. Abolhasani M.D., Jafari A.H., Salimpour Y., Khalili G., Marami B., "Automated identification and interpretation of Auditory Brainstem evoked potentials" , Third European Medical and Biological Engineering Conference, Prague, EMBEC ٢٠٠٥.

٢٠. Shaker M., Lucas C., Jafari A. H., "A Neuro-Fuzzy Approach for Trajectory Tracking of Two-Link Robot Manipulators", First Joint Congress on Fuzzy and Intelligent Systems (ISFS٢٠٠٧), Mashhad, Iran, on August ٢٩-٣١, ٢٠٠٧.

٢١. Nazari M., Jafari A. H., Hashemi Golpayegani M. R., "Chaotic control of a two-link rigid manipulator with hierarchical structure", (ICCS٠٧) International Conference on Complex Systems ٢٠٠٧, Boston, MA.

٢٢. Rahbar, S., Abolhassani, M. D., Arabalibeik, H., Jafari, A. H.," Auditory Brainstem Response Classification Using Wavelet Transform and Multilayer Feed-forward Networks", Proceedings of the ٤th IEEE-EMBS International Summer School and Symposium on Medical Devices and Biosensors, ٢٠٠٧.

٢٣. Zandi Mehran, Y. Nasrabadi, A.M. Jafari, A.H., "Fuzzy Neural Network for Detecting Nonlinear Determinism in Gastric Electrical Activity: Fractal Dimension Approach", ٤th International IEEE Conference "Intelligent Systems", ٢٠٠٨.

٢٤. Hosseini M.N., Jafari A.H. ,Fazeli S. Mahmoudian S., "Fuzzy clustering of transient evoked OtoAcoustic emission signal based on K-nearest neighbors rule", IASTED International Conference BIOMEICAL ENGINEERING, Feb. ٢٠٠٨.

٢٥. Naghibolhosseini, M.; Jafari, A.H.; Fazeli, S.; Lucas, C., "Fuzzy Clustering of Transient Evoked OtoAcoustic Emission Signals Using Gustafson Kessel Algorithm", ICBBE, ٢٠٠٨.

٢٦. Rahafrooz A., Fallah A., Jafari A. H., Bakouie B., Zendehrouh S., Gharibzadeh S., "Saccadic and smooth pursuit eye movements: Computational modeling of a common inhibitory mechanism in brainstem", Neuroscience Letters, Vol. ٤٤٨, Issue ١, ٨٤-٨٩, Dec. ٢٠٠٨.

٢٧. Hadian **M.,** Negahban **H.,** Talebian **S.,** Salavati **M.,** Jafari **A.H.,** Sanjari **M.A.,** Mazaheri **M. and** Parnianpour **M.,** "Reliability of Center of Pressure Measures of Postural Stability in Patients with Unilateral anterior Cruciate Ligament Injury", Journal of Applied Sciences, vol. ٨ issue ١٧,٣٠١٩-٣٠٢٥, ٢٠٠٨.

٢٨. Nazari M., Rafiee G., Jafari A.H., Hashemi Golpayegani S.M.R, "Supervisory Chaos Control Of A Two-Link Rigid Robot Arm Using Ogy Method", IEEE International Conference on Cybernetics and Intelligent Systems, CIS , ٢٠٠٨.

٢٩. Nazari Golpayegani G., Jafari A.H., "A novel approach in ECG beat recognition using adaptive neural fuzzy filter", J. Biomedical Science and Engineering, ٢٠٠٩, ٢, ٨٠-٨٥

٣٠. Salavati M., Hadian M., Mazaheri M., Negahban H., Ebrahimi I., Talebian S., Jafari A. H., Sanjari M., Sohani S., Parnianpour M., "Test-Retest Reliability of Center of Pressure Measures of Postural Stability during Quiet Standing in a Group with Musculoskeletal Disorders Consisting of Low Back Pain, Anterior Cruciate Ligament Injury and Functional Ankle Instability", Gait and Posture, vol. ٢٩, issue ٣, ٤٦٠-٤٦٤, April ٢٠٠٩.

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٣٢. NegahbanH., Hadian M.R., Salavati M., Mazaheri M., Talebian S., Jafari A.H., Parnianpour M.," The Effects Of Dual-Tasking On Postural Control In People With Unilateral Anterior Cruciate Ligament Injury", Gait & Posture, Vol. ٣٠, No. ٤,٤٧٧-٤٨١, ٢٠٠٩.

٣٣. Nazari Golpayegani G., Jafari A.H., "A muscle spindle model and study the effects of static and dynamic γ stimulations on primary and secondary ending outputs", J. Biomedical Science and Engineering, ٢, ١٥٨-١٦٥, ٢٠٠٩.

٣٤. Jafari A.H., Naghibolhosseini M., Hatzopoulos S., "Classification of Transient Evoked OtoAcoustic Emission Signals Using Fuzzy Clustering Method", International Journal of Audiology, submitted ٣١-May-٢٠٠٩.

٣٥. Nazari Golpayeghani G., Jafari A.H.," A Novel Approach In Ecg Beat Recognition Using Adaptive Neural Fuzzy Filter", J. Biomedical Science and Engineering, Vol.٢, ٨٠-٨٥, ٢٠٠٩.

٣٦. Nazari Golpayegani G., Jafari A.H.," Improved Adaptive Neural Fuzzy Filter And Its Application In Noise Cancellation", ٣rd International Conference on Bioinformatics and Biomedical Engineering, ICBBE, ١-٧,٢٠٠٩.

٣٧. Bahbahani S., Jafari A.H.," Analysis Of Positive Feedbackin The Control Of Movement", J. Biomedical Science and Engineering, Vol.٢,٤٨٠-٤٨٣,٢٠٠٩.

٣٨. Alizadeh Zanjani Sh., Jafari A.H., Motie Nasrabadi A.," Intelligent Fuzzy Chaotic Control Of A Two-Link Rigid Robot Arm", ٣rd UKSim European Symposium on Computer Modeling and Simulation, ١-٥, ٢٠٠٩.

٣٩. Bahreini, L., Jafari, A.H.; Gity, M., "Classification of breast lesions in dynamic contrast-enhanced MR images", ١٧th Iranian Conference of Biomedical Engineering (ICBME), ٣-٤ Nov. ٢٠١٠.

٤٠. Alizadeh Zanjani Sh., Jafari A.H.," The Smart Ogy Control of Two-Link Rigid Robot Arm", International Journal of Simulation Systems, Science & Technology, Vol. ٩, No. ٢, ٢٣-٢٨, ٢٠١٠.

٤١. Alizadeh Zanjani Sh., Jafari A.H., Motie Nasrabadi," A OGY Control Fuzzification Of Tow-Link Rigid Robot Arm", ٢nd Asia-Pacific Conference on Computational Intelligence and Industrial Applications, ٤٠٥-٤٠٨, ٢٠١٠.

٤٢. Taherkhani A., Seyyedsalehi S. A., Jafari A. H, ".Design of a chaotic neural network for training and retrieval of grayscale and binary patterns", Neurocomputing, Volume ٧٤, Issue ١٧, ٢٨٢٤-٢٨٣٣, ٢٠١١.

٤٣. Mostafa Taghavi Kani MSc., Amir Homayoon Jafari PhD., Alireza Khoshnevisan MD., Hosein Arabalibeyk PhD., Mohamad Javad Abolhasani PhD. "Neuronal spike sorting based on radial basis function neural networks**" , Tehran University Medical Journal, Volume ٦٨, Number ١١, February ٢٠١١.**

٤٤. Nowshirvan Rahatabad F., Fallah A., Jafari A.H.," A Study Of Chaotic Phenomena In Human-Like Reaching Movements", International Journal of Bifurcation and Chaos, Vol. ٢١,No. ١١, ٣٢٩٣-٣٣٠٣, ٢٠١١.

٤٥. **Jafarnia** Dabanloo N., **Tareh A.**, **Jafari A.H.,** Attarodi G., "Fuzzy Classification of Children with Congenital Heart Disease using the PCG signals" , **The First Capital International Nursing Conference(CINC), ٢٨-٣٠ oct. ٢٠١١.**

٤٦. Babady Soltanzadeh N., Jafari A.H, Mazdeyasna S., Hadjati J.," A Mathematical Model of In Vitro Cancer Cell and Treatment eith Anitimitotic Agent by Cellular Automata", Journal of Biomedical Physics and Engineering, Vol.١, suppl.١, S١٩٠, ٢٠١١.

٤٧. Sadeghi M., Jafari A.H., Firoozabadi S.M.P., "Optimizing Voltage Parameter of Deep Brain Stimulation for Parkinsonian Patients by Modeling", World Academy of Science,Engineering and Technology (International Journal of Medical, Health,

Biomedical, Bioengineering and Pharmaceutical Engineering), Vol.٥, No. ٢. ٥٥-٦٠, ٢٠١١.

٤٨. M. Sadeghi, A.H. Jafari, S.M.P. Firoozabadi, "Optimizing Voltage Parameter of Deep Brain Stimulation for Parkinsonian Patients by Modeling", World Academy of Science,Engineering and Technology (International Journal of Medical, Health, Biomedical, Bioengineering and Pharmaceutical Engineering), Vol.٥, No.٢,٧٨-٨١, ٢٠١١.

٤٩. Nowshiravan Rahatabad F, Jafari A.H., Fallah A, Razjouyan J. "A fuzzy-genetic model for estimating forces from electromyographical activity of antagonistic muscles due to planar lower arm movements: The effect of nonlinear muscle properties", Biosystems. Vol. ١٧, No.١, ٥٦-٦٣, ٢٠١٢.

٥٠. Sajad Jafari, Seyed Mohammad Reza Hashemi Golpayegani, Amir Homayoun Jafari, Shahriar Gharibzadeh, "Some remarks on chaotic systems", International Journal of General Systems, vol.٤١,Issue ٣, ٣٢٩-٣٣٠, ٢٠١٢.

٥١. **Jafari S., Hashemi Golpayegani M.R., Jafari A.H., "**Is Stretching and Folding Feature of Chaotic Trajectories Useful in Adaptive Local Projection?", Journal of Medical Signals and Sensors, vol. ٢, No. ٢, ١١٢-١١٣, ٢٠١٢.

٥٢. Jafari S.,. Hashemi Golpayegani S.M.R, Jafari A.H., "A Novel Noise Reduction Method Based On Geometrical Properties Of Continuous Chaotic Signal", Scientia Iranica, Vol. ١٩, No.٦, ١٨٣٧-١٨٤٢, ٢٠١٢.

٥٣. Sarlak, P., Jafari, A. H., Attarodi, G., Dabanloo, N. J., Setarehdan, S. K., & Hemmati, N.," HRV Signal Dynamic Extraction In The Poincare Plot By Analyzing The Extended U-Sequences For Cardiac Arrhythmia Classification", Computing in Cardiology, Vol ٣٩, ٩٤١-٩٤٤,٢٠١٢.

٥٤. M. Mehrzad, M. D. Abolhassani, A. H. Jafari, J. Alirezaie, M. Sangargir," Cochlear Implant Speech Processing Using Wavelet Transform", International Scholarly Research Network- Signal Processing , Vol. ٢٠١٢.

٥٥. Jafari, A.H., Babady Soltanzadeh N., Hajati J., "Mathematical Model of Breast Cancar Growth In Vitro by Cellular Automata", International Conference on Modeling and Simulation-ICMS, ٢٠١٢.

٥٦. SadeghiRazlighi M., Jafari A.H., Firoozabadi S.M.,Shahidi Gh.A.," Study Of Chaotic Behavior of Tremor Of Some Parkinsonians Under Deep Brain Stimulation", Australasian Physical & Engineering Sciences in Medicine, Vol. ٣٥, No. ١, ٢٥-٣٠, ٢٠١٢.

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Stimuli in Auditory Brainstem Responses Using Correlation and Coherence Analyses", Frontiers in Biomedical technologies,Vol ٢, No. ٢, ٨٠-٨٦, ٢٠١٥.

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Professional Service

- Reviewer for multiple biomedical engineering and neuroscience journals
- Organizer and contributor to national and international conferences in biomedical engineering

Thesis Supervision

- Supervised more than ١٥٠ BSc. projects.
- Served as supervisor and advisor for approximately ٨٠ MSc. projects.
- Supervised ٢٠ Ph.D. dissertations.
- Institutions: Amirkabir University of Technology, Tehran University of Medical Sciences – School of Rehabilitation, and Islamic Azad University – Science and Research Branch (up to ٢٠٠٩).
- Thesis details from ٢٠١٠ to present: [to be listed].

Thesis from ٢٠١٠ to present:

Row	Thesis Title	Degree program		Institution	Collaborators (in order of priority)	Role
		MSc.	Ph.D.			
۱	Optimal Feature Extraction of Neural Spikes Using Wavelet Analysis for Spike Sorting			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Mohammad Javad Abolhassani Dr. Amir Homayoun Jafari Dr. Alireza Khoshnevisan	Second Supervisor
۲	Analysis and Classification of EEG Signals Using Chaotic Features for Epilepsy Diagnosis			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Mohammad Javad Abolhassani Dr. Amir Homayoun Jafari Prof. Micheal Van Putten	Second Supervisor
۳	Application of a Dual-Delay Model to Estimate Insulin Dosage in Type ۱ Diabetic Patients			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari	Supervisor
۴	Modeling the Growth and Spread of Cancer Cells In Vitro and the Effect of Chemotherapy Based on Cellular Automata			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari Dr. Jamshid Hajati Dr. Ahmadreza Dehpour	Supervisor
۵	Modeling the Damaged Human Cochlea Using Mechanical and Physiological Parameters			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari Dr. Mohammad Javad Abolhassani	First Supervisor
۶	Modeling the Processor of Human Cochlear Implants Using Wavelet Transform			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari Dr. Mohammad Javad Abolhassani	First Supervisor
۷	| Modeling the Effect of Cisplatin on the Growth of Melanoma			Department of Physics and Biomedical Engineering, School of	Dr. Amir Homayoun Jafari Dr. Jamshid Hajati	Supervisor

	Cancer Cells in B١٦-F١٠ Mice Using Cellular Automata			Medicine, Tehran University of Medical Sciences, Tehran, Iran		
٨	Noise Reduction of Cochlear Otoacoustic Emission Signals Using Adaptive Filter Banks			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari Dr. Hamidreza Saliqehrad	Supervisor
٩	Application of a Dual-Delay Insulin–Glucose Model in Predictive Blood Sugar Control via Insulin Injection			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari, Dr. Mohammad Reza Mohajeri Tehrani Dr. Azadeh Ebrahim Habibi	Supervisor
١٠	Fuzzy Modeling of the Auditory Pathway Considering Brainstem Responses to Common Auditory Stimuli			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari Dr. Akram Pourbakht	Supervisor
١١	Analysis and Detection of Binaural Interaction in Auditory Brainstem Responses to Speech Stimuli			Department of Audiology, School of Rehabilitation, Iran University of Medical Sciences	Dr. Akram Pourbakht Dr. Amir Homayoun Jafari Dr. Shohreh Jalaei	Second Supervisor
١٢	| Extraction of Features Influenced by Syllabic Structure in Speech-Evoked Auditory Brainstem Responses (speech-ABR) in Persian Speakers			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari Dr. Akram Pourbakht	Supervisor
١٣	Analysis of Temporal Effects of Stimuli on Complex Auditory Brainstem Responses (cABR) to Investigate Auditory Perception in Persian Speakers Using Nonlinear Approaches			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari, Dr. Mohammad Javad Abolhassani Dr. Mohammad Farhadi Dr. Hamed Sajedi	First Supervisor
١٤	| Pattern-Based Methods to Improve Signal-to-Noise Ratio in Auditory Brainstem Response Recordings			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari Dr. Akram Pourbakht	Supervisor
١٥	| Design of an Equation-Free Agent-Based Fuzzy Model to Study Melanoma Tumor Growth in Interaction with the Immune System and Cytokines TGFβ and IL٢			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Homayoun Jafari Dr. Jamshid Hajati	Supervisor

۱۶	Development of a Novel Adaptive Method Based on Intelligent Modeling to Define Safety Margins for Clinical Tumor Volume in External Radiotherapy of Prostate Cancer			Department of Medical Physics, School of Medicine, Iran University of Medical Sciences	Dr. Seydar Bee Mahdavi Dr. Amir Homayoun Jafari	Second Supervisor
۱۷	Extraction of Suitable Features for Identifying Peaks in ABR Signals Using Wavelet Transform			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Mohammad Javad Abolhassani Dr. Hossein Arabali Beik Dr. Amir Homayoun Jafari	Advisor
۱۸	| Effect of Playing with Entertainment Robots on Improving Social Skills of Children with Autism Spectrum Disorder			School of Psychology and Social Sciences, Central Tehran Branch, Islamic Azad University	Dr. Kambiz Poshneh Dr. Amir Homayoun Jafari	Advisor
۱۹	Estimation and Evaluation of Spatial Distribution of Fluorescence in Turbid Media Using Green's Functions in Molecular Fluorescence Tomography			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Marjaneh Hejazi Dr. Amir Homayoun Jafari	Advisor
۲۰	| Design and Implementation of Forward Algorithms for Fluorescence Tomography Images Using Finite Element Methods in Homogeneous Media			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Marjaneh Hejazi Dr. Amir Homayoun Jafari	Advisor
۲۱	Providing a Cost Function in Uncertainty Space via Poincaré Section for Parameter Estimation of Complex Systems			Amirkabir University of Technology, School of Biomedical Engineering, Tehran, Iran	Dr. Mohammadreza Hashemi Golpayegani Dr. Amir Homayoun Jafari Dr.J.C.Sprott	Advisor
۲۲	Generation of Attenuation Maps Based on Segmented MRI Images for Attenuation Correction in PET Imaging of the Head: Focus on Bone–Air Separation			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Mohammadreza Ay Dr. Hamireza Salegheh Rad Dr. Amir Homayoun Jafari	Advisor
۲۳	Modeling the Role of Astroglial Cells in Learning and Formation of Spatial Memory			Amirkabir University of Technology, School of Biomedical Engineering, Tehran, Iran	Dr. Ali Fallah Dr. Amir Homayoun Jafari Dr. Mohsen Reza Heidari	Advisor
۲۴	Implementation of Attenuation Correction Algorithms in Preclinical SPECT Imaging Using Atlas-Based Methods			Department of Physics and Biomedical Engineering, School of Medicine, Tehran	Dr. Mohammadreza Ay Dr. Saeed Sarkar Dr. Amir Homayoun Jafari	Advisor

				University of Medical Sciences, Tehran, Iran		
۲۵	Modeling Tumor Growth and Production of Cytotoxic T Lymphocytes (CTLs) Following Elimination of Myeloid-Derived Suppressor Cells (MDSCs) Using Governing Differential Equations			Department of Immunology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Jamshid Hajati Dr. Nazanin Mojtabavi Dr. Amir Homayoun Jafari	Advisor
۲۶	Investigation of Temporal and Spectral Cue Interactions in Recognition of Encoded Persian Speech Signals			Department of Audiology, School of Rehabilitation, Iran University of Medical Sciences	Dr. Masoud Motasad Zarandi Dr. Yahya Modarresi Dr. Shohreh Jalaei Dr. Mahnaz Ahmadi Dr. Amir Homayoun Jafari	Advisor
۲۷	Online Localization of Brain Electrical Components Using Tensor Decomposition of EEG Signals			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Bahador Maki Abadi Dr. Amir Homayoun Jafari	Advisor
۲۸	Agent-Based Modeling of Immune System and Melanoma Interactions in Combined Therapy Protocols with DC Vaccines and MDSC Inhibitors			Department of Immunology, School of Medicine, Iran University of Medical Sciences	Dr. Bahador Maki Abadi Dr. Jamshid Hajati Dr. Amir Rahmayoun Jafari	Advisor
۲۹	Extraction of Cortical and Brainstem Signal Features Influenced by Selective Auditory Attention to Speech Stimuli			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Rahmayoun Jafari	Supervisor
۳۰	Agent-Based Modeling of ٤T١ Tumor Cell Growth in the Presence of the Immune System and Elimination of Myeloid-Derived Suppressor Cells Using ٥-FU			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Jamshid Hajati	First Master Supervisor
۳۱	Extraction of Dynamics and Nonlinear Features of Brain Responses to Visual and Auditory Stimuli with Different Dynamic Patterns			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Mohsen Reza Heidari Dr. Amin Mahnam	Supervisor
۳۲	Design of a Laboratory Prototype for Non-Invasive Continuous Blood Glucose Measurement to Model Blood Sugar Variations			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari	Supervisor

۳۳	Extraction of Periodic High-Frequency Visual Stimuli Patterns for Use in Brain–Computer Interfaces Based on Steady-State Visual Evoked Potentials			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Bahador Maki Abadi Dr . Amir Rahmayoun Jafari Dr. Mohsen Reza Heidari Dr. Amin Mahnam	Second Supervisor
۳۴	Extraction and Classification of EEG Signal Dynamics in Response to Auditory Stimuli with Dynamic Frequency Coding for Brain–Computer Interfaces			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Mohsen Reza Heidari Dr. Amin Mahnam	First Master Supervisor
۳۵	Extraction of Dynamics and Nonlinear Features of Brain Responses to Visual and Auditory Stimuli with Different Dynamic Patterns			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Mohsen Reza Heidari Dr. Amin Mahnam	First Master Supervisor
۳۶	| Hierarchical Probabilistic Agent-Based Modeling of Immune System and B۱۶-F۱۰ Tumor Cell Interactions to Study the Effect of MDSC Elimination on Tumor Behavior			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Jamshid Hajati	Supervisor
۳۷	| Extraction of Dynamic Features of Brain Responses to Color-Coded Visual Stimuli for Brain–Computer Interface Applications			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Mohsen Reza Heidari Dr. Amin Mahnam	Supervisor
۳۸	| Modeling the Effect of Behavioral Strategy Changes in the Interaction Between Melanoma Tumor Cells and CD۸ Immune Cells in C۵۷ Mice Using Game Theory			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Jamshid Hajati	Supervisor
۳۹	| EEG Signal Analysis for Quantifying the Effect of Brain Stimulation on Drug Craving			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Bahador Maki Abadi Dr. Mohammad Ali Oghabian Dr. Mohammad Hossein Harirchi Dr. Hamed Ekhtiari	First Master Supervisor
۴۰	Agent-Based Fuzzy Modeling of Immune System–Cancer Interactions Considering the Effect of Treg Cells			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Jamshid Hajati	Supervisor

۴۱	Investigation of Input Information Load in Chaotic Visual Stimuli on Fatigue in Brain–Computer Interfaces Based on Visual Evoked Potentials			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Mohsen Reza Heidari	Supervisor
۴۲	Study of Glycosylated Nanodrug Systems of Gadolinium for Detection of Breast Cancer Lymphocytes Using Molecular Magnetic Resonance Imaging (mMRI)			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Nader Riahi Alam Dr . Amir Rahmayoun Jafari	Second Supervisor
۴۳	Localization of Epileptic Seizure Sites in the Brain Using EEG Signal Processing with Fuzzy Intelligent Algorithms and Deep Learning			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Mohammad Ali Oghabian Dr . Amir Rahmayoun Jafari	Advisor
۴۴	Agent-Based Fuzzy Modeling of Immune System–Cancer Interactions for Optimization of Treatment Protocols			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Jamshid Hajati	Supervisor
۴۵	| Investigation of Sensory–Motor System Coupling in Healthy Individuals Compared to ALS Patients Using Nonlinear Dynamics and Chaos Theory			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Amir Rahmayoun Jafari Dr. Shahriar Nafisi Dr. Mohsen Reza Heidari	First Master Supervisor
۴۶	Agent-Based Fuzzy Modeling of Immune System–Cancer Interactions for Optimization of Anti-PD-۱ Treatment Protocols in Pancreatic Cancer			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Jamshid Hajati	Supervisor
۴۷	Agent-Based Fuzzy Modeling of Immune System–Cancer Interactions to Evaluate the Effectiveness of Anti-PD۱ and Anti-IL٦ Therapies in Pancreatic Cancer			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Jamshid Hajati	Supervisor
۴۸	| Reconstruction of Multi-Fiber Brain Imaging Using Mathematical Models of Diffusion Signal Distribution; Evaluation in Phantom Studies			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr. Hamidreza Saliqehrad Dr . Amir Rahmayoun Jafari Dr. Mohammadreza Nazemzadeh	Second Supervisor
۴۹	Bilateral Control of a One-Degree-of-Freedom Rotational			Department of Physics and Biomedical	Dr. Alireza Mirbagheri Dr . Amir Rahmayoun Jafari	Second Supervisor

	Tele-Robotic System with Force Feedback and Variable Time Delay Simulation for Remote Robotic Surgery Applications			Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran		
۵۰	Experimental Study of Muscle Fatigue Threshold and Estimation of Biomechanical Load on Cervical Intervertebral Discs Based on Postural Angles and Electromyography Data in Overhead Tasks			Department of Occupational Health Engineering, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran	Dr. Adel Mazloumi Dr . Amir Rahmayoun Jafari Dr. Ramin Kordi	Second Supervisor
۵۱	Extraction of Dynamic Features of Brain Responses to Color-Coded Visual Stimuli for Brain–Computer Interface Applications			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Mohsen Reza Heidari Dr. Amin Mahnam	First Master Supervisor
۵۲	Investigation of the Effect of Plant Aromas on Mental Fatigue Using EEG Signals			Department of Occupational Health Engineering, School of Public Health, Iran University of Medical Sciences	Dr. Rasoul Yarahmadi Dr . Amir Rahmayoun Jafari	Second Supervisor
۵۳	Development of a Computational Model to Simulate Cytokine Storm Syndrome in ALL Cancer Patients Under CAR-T Cell Therapy			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Jamshid Hajati	Supervisor
۵۴	Proposal of a Nonlinear Coupling Metric in the Neuro-Muscular System to Compare ALS Patients with Healthy Individuals Using Fuzzy Neural Analysis			Department of Physics and Biomedical Engineering, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran	Dr . Amir Rahmayoun Jafari Dr. Shahriar Nafisi Dr. Mohsen Reza Heidari	First Master Supervisor

Professional Experience & Research

Technical and Research Projects

- **Internship at Gilan Combined Cycle Power Plant** – Worked on software for automatic control systems (۱۹۹٤).
- **Second-Generation Cybernetic Hand Project** (۱۹۹٦–۱۹۹۷).

- **Automatic Evaluation of Auditory Brainstem Response (ABR) Signals Project** – Medical Sciences Research Center, Imam Khomeini Hospital (۲۰۰۵).
- **Application of Wavelet Method in ABR Signal Evaluation and Hearing Disorder Diagnosis Project** – Medical Sciences Research Center, Imam Khomeini Hospital (۲۰۰۶).
- **Comparison of FCM-KNN and GK Algorithms in OAE Data Clustering Project** – Medical Sciences Research Center, Imam Khomeini Hospital (۲۰۰۸).

Academic Conferences

- Executive Secretary, **First Student Conference on Biomedical Engineering** – Amirkabir University of Technology (۱۹۹۸).
- Scientific Secretary, **Second Student Conference on Biomedical Engineering** – Islamic Azad University, Science and Research Branch (۱۹۹۹).

Academic and Administrative Roles

- Head of **Bioelectric Department (Undergraduate Program)** – Islamic Azad University, Science and Research Branch (۲۰۰۵–۲۰۱۰).
- Deputy for Graduate Education, **Biomedical Engineering Department** – Tehran University of Medical Sciences (۲۰۱۱–۲۰۱۸).
- Deputy Head, **Bioelectric Group, Research Center for Science and Technology in Medicine** – Imam Khomeini Hospital (۲۰۱۰–۲۰۱۸).
- Head of **Biomedical Systems and Equipment Department, Research Center for Science and Technology in Medicine** – Imam Khomeini Hospital (۲۰۱۲–present).
- Head of **Medical Physics and Biomedical Engineering Department, School of Medicine** – Tehran University of Medical Sciences (۲۰۱۹–present).
- Advisor, **National Center for Medical Skills and Professional Education** (۲۰۱۹–present).

Books

- **Translation:** *Applied Nonlinear Control* by Slotine – Academic Publishing Center, ۲۰۲۳ (۷th edition).
- **Authorship:** *Linear Control Systems* – Kanoon Farhangi Amoozesh, ۲۰۰٤.

Executive Activities

Position Title	Workplace Address	Start Date
Head of Medical Physics and Biomedical Engineering Department	School of Medicine, Tehran University of Medical Sciences	۲۰۱۸ - Present

Secretary of Examination, Evaluation, and Planning Committee for Biomedical Engineering	Ministry of Health and Medical Education	۲۰۱۸ - Present
Member and Advisor of Biomedical Engineering Committee, National Center for Medical Skills and Professional Education	National Center for Medical Skills and Professional Education, Ministry of Health	۲۰۱۹ - Present
Member of Scientific Qualification Review Committee, School of Medicine	School of Medicine, Tehran University of Medical Sciences	۲۰۲۲ - Present
Secondary Membership in Occupational Health Engineering Group	School of Public Health, Tehran University of Medical Sciences	۲۰۲۲ - Present
Member of Examination, Evaluation, and Planning Committee for Biomedical Engineering	Ministry of Health and Medical Education	۲۰۱۳ - Present
Member of Strategic Committee for National Mega Project on Subcutaneous Neuro-prosthetics	Supreme Council of Science, Research and Technology	۲۰۱٤ - Present
Member of Biomedical Technologies and Robotics Research Center	Imam Khomeini Hospital Complex, Tehran	۲۰۱۳ - Present
Member of Research Council, Biomedical Technologies and Robotics Research Center	Imam Khomeini Hospital Complex, Tehran	۲۰۱۳ - Present
Member of Research Council, Research Center for Science and Technology in Medicine	Imam Khomeini Hospital Complex, Tehran	۲۰۱۰ - Present
Member of Recruitment Committee, Physics and Biomedical Engineering Department	School of Medicine, Tehran University of Medical Sciences	۲۰۱۳ - Present
Member of Graduate Education, Evaluation and Planning Working Group, Biomedical Engineering Department	School of Medicine, Tehran University of Medical Sciences	۲۰۱٦ - Present
Deputy for Education and Graduate Studies Representative, Biomedical Engineering Department	School of Medicine, Tehran University of Medical Sciences	۲۰۱۱ - ۲۰۱۸
Executive Manager, Scientific-Research Quarterly of Biomedical Engineering	Imam Khomeini Hospital Complex, Tehran	۲۰۰۷ - ۲۰۱٤
Editorial Board Member, Frontiers in Biomedical Technologies (English Journal)	Imam Khomeini Hospital Complex, Tehran	۲۰۱۳ - Present
Deputy Head of Bioelectronic Research Group	Imam Khomeini Hospital Complex, Tehran	۲۰۱۰ - ۲۰۱۳
Head of Biomedical Systems and Equipment Research Group	Imam Khomeini Hospital Complex, Tehran	۲۰۱۳ - Present

Member of Biomedical Engineering Groups Council, Islamic Azad University	Central Organization of Islamic Azad University, Tehran	۲۰۰۸ - ۲۰۱۰
Head of Bioelectric Department, School of Biomedical Engineering, Islamic Azad University, Science and Research Branch	School of Biomedical Engineering, Islamic Azad University, Science and Research Branch, Tehran	۲۰۰۵ - ۲۰۱۰
Deputy of Education, School of Biomedical Engineering, Islamic Azad University, Science and Research Branch	School of Biomedical Engineering, Islamic Azad University, Science and Research Branch, Tehran	۲۰۱۰
Deputy Dean, School of Biomedical Engineering, Islamic Azad University, Science and Research Branch	School of Biomedical Engineering, Islamic Azad University, Science and Research Branch, Tehran	۲۰۰۸ - ۲۰۱۰
Member of Educational Council, School of Biomedical Engineering, Islamic Azad University, Science and Research Branch	School of Biomedical Engineering, Islamic Azad University, Science and Research Branch, Tehran	۲۰۰۵ - ۲۰۱۰
Member of Second-Generation Cybernetic Hand Project	Amirkabir University of Technology, School of Biomedical Engineering	۱۹۹۶ - ۱۹۹۷