Mohammad Khazaei

Ph.D. Student in Neuroscience

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Education

Gabriele D'Annunzio University of Chieti-Pescara — **Pescara, Italy**
Ph.D. in Neuroscience and Imaging — *Fall 2019*

Iran University of Science and Technology (IUST) — **Tehran, Iran**
M.Sc. in Biomedical Engineering — *Fall 2012-Winter 2015*

Sahand University of Technology (SUT) — **Tabriz, Iran**
B.Sc. in Biomedical Engineering — *Winter 2008-Spring 2011*

Research Interests

- Biological Signal Processing
- Biological System Modelling
- Control of Biological Systems

Educational & Professional Experiences

2017-2018 **Pooyandegan Rah Saadat CO.,** R&D Expert, Tehran, Iran.

- Designed software and hardware for EEG monitoring in adults and neonates complying with IEC 60601-2-26.
- Designed software to distinguish between shockable and nonshockable ECG rhythms in an Automated External Defibrillator (AED) complying with IEC 60601-2-4.
- Developed software for measuring ECG parameters for electrocardiograph complying with IEC 60601-2-25.

2015-2017 **Iran's National Elites Foundation,** Researcher, Tehran, Iran.

- Designed and implementing a wireless vital signs monitoring system with the capability of cardiac arrhythmia detection.
- Conducted a feasibility study on designing an indirect calorimeter.

2012-2015 **Iran Neural Technology Research Center,** Researcher (Thesis), Tehran, Iran.
Dissertation title: *Generating and Controlling the Movement in Cat Hindlimb Using Epidural Electrical Stimulation of Spinal Cord*

- Derived a stimulation map for epidural electrical stimulation of the spinal cord in cats.
- Formed locomotor patterns in the hindlimb of cats in an open-loop manner by epidural electrical stimulation of the spinal cord.
- Controlled the movement of the hindlimb in cats using an adaptive fuzzy neuro sliding mode method by epidural electrical stimulation of the spinal cord.

Publications

PAPERS

1- "Phase-synchrony Evaluation of EEG Signals for Multiple Sclerosis Diagnosis Based on Bivariate Empirical Mode Decomposition during a Visual Task" | K. Raeisi, M. Mohebbi, **M. Khazaei**, M. Seraji, and A. Yoonessi | *Comput. Biol. Med., Elsevier, 2020.*
2- "Early Detection of Sudden Cardiac Death Using Nonlinear Analysis of Heart Rate Variability" | **M. Khazaei**, K. Raeisi, A. Goshvarpour, M. Ahmadzadeh | *Biocybern. Biomed. Eng., Elsevier, 2018.*
3- "Blood Glucose Regulation Using Adaptive Fuzzy Sliding Mode Control in Type I Diabetic Patients" | **M. Khazaei**, A.H. Geramipour, S.H. Sadat-Hosseini, A. Marjaninejad | *Int. J. Mechatron. Electr. Comput. Technol., 2018.*
4- "A Radial Basis Function Neural Network Approximator with Fast Terminal Sliding Mode-Based Learning Algorithm and Its Application in Control Systems" **M. Khazaei**, S.H. Sadat-Hosseini, A. Marjaninejad, S. Daneshvar| *Iranian Conference on Electrical Engineering (ICEE), 2017.*
5- "Adaptive Fuzzy Neuro Sliding Mode Control of the Hindlimb Movement Generated by Epidural Spinal Cord Stimulation in Cat" | **M. Khazaei**, A. Erfanian | *Intl. Funct. Electric. Stim. Soc, Inria, France, 2016.*
6- "Controlling the Depth of Anesthesia Using Adaptive Fuzzy Sliding Mode Control Strategy" | S.H. Sadat-Hosseini, **M. Khazaei**, Z.A. Khomarlou, A.H Geramipour | *Int. J. Mechatron. Electr. Comput. Technol., 2015.*
7- "Design of FPGA-Based Digital PID Controller Using Xilinx Sys Gen® for Regulating Blood Glucose Level of Type I Diabetic Patients" | A. Geramipour, **M. Khazaei**, A. Marjaninejad, M. Khazaei| *Int. J. Mechatron. Electr. Comput. Technol., 2013.*

BOOKS

1- "Ordinary Differential Equations" | **M. Khazaei**, M. Khazaei | Rah Publications, 2015.
2- "Technical Language for Electrical Engineering" | **M. Khazaei**, M. Khazaei | Rah Publications, 2013.

Language

PERSIAN	Native
ENGLISH	Fluent

Skills

PROGRAMMING	MATLAB, C++, LabVIEW
HARDWARE DESIGN	Altium Designer, Proteus, LTspice
IDE	QtCreator, Microsoft Visual Studio, Keil, CodeVision, STM32CUBE
MISC. SOFTWARE	Microsoft Office, IBM SPSS Modeler