# Amirsalar Mansouri

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## Education

**2014–Present**  Ph.D. in Electrical and Computer Engineering,
Department of Electrical & Computer Engineering, University of Nebraska- Lincoln, Lincoln, NE, USA
**Current GPA: 3.542**

**2009–2013**  B.Sc. in Electronic Engineering,
School of Electrical & Electronic Engineering, Iran University of Science & Technology, Behshahr, Iran
**Total GPA: 14.38/20**

**2005–2009**  Diploma in Physics and Mathematics Discipline
Allameh Helli High School, National Organization for Development of Exceptional Talents, Tehran, Iran,
**Total GPA: 18.31/20**

## Research Interests

- **EEG**
- **Signal Processing**
- **Machine Learning**
- **Data mining**
- **Bioinformatics**
- **RNA-seq**

## Research Experience

**Fall 2014 – Present**  **Research Assistant, Advisor Dr. Khalid Sayood.**
Department of Electronic Engineering, University of Nebraska- Lincoln,
Topics: EEG analysis especially pattern recognition of states of brain transitions, RNA-Seq analysis
- Seizure Detection and Localizations using EEG signals by modeling the preictal to ictal EEG signals alterations.
- Network-based pattern recognition seizure localization
- Unsupervised detection of a recent concussive injury Modeling recent concussive injury impacts using a novel network-based monitoring approach.
- Preprocessing RNA-seq data
- Analyzing human and viral genome expression
- Associated pathway analysis of differentially expressed genes.

**Fall 2020 – Present**  **Research Assistant, at AACT lab, Dr. Kevin Pitt.**
College of Education and Human Sciences, University of Nebraska- Lincoln,
- Collecting and Processing data
- Classifying the stimulated and non-stimulated conditions using feature extraction in time domain.
- Modeling electrodes correlations using Network-based pattern recognition

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| *Spring 2013 –*<br>*Spring 2014* | **Research Assistant in Electronic Laboratory directed by Dr. Ali Kermani.**<br>Department of Electronic Engineering, Iran University of Science & Technology,<br>Measuring of Mind's Awareness,<br>• Design circuit for collecting, amplifying, and filtering brain signals<br>• Processing and classifying awareness level |
| *Spring2011 –*<br>*Spring 2012* | Simulation of a complete minimum system (including RAM, ROM, LCD, etc.) in<br>Proteus. Project of "Computer Structure and Microprocessors", Dr. Kermani,<br>Fall 2012.<br>Group project of Simulating, Designing and Implementation of ECG Signals Analyzer, Dr.<br>Ghonoudi, Behshahr, Iran, Spring 2012 |

## Publications

**Hierarchal Online Temporal and Spatial EEG Seizure Detection**
Mansouri, Amirsalar, Sanjay Singh, and Khalid Sayood. "Hierarchal Online Temporal and Spatial EEG Seizure Detection." 2017 IEEE International Conference on Electro Information Technology (EIT) (May 2017). doi:10.1109/eit.2017.8053397.

**Online EEG Seizure Detection and Localization**
Mansouri, Amirsalar, Sanjay P. Singh, and Khalid Sayood. "Online EEG Seizure Detection and Localization." Algorithms 12.9 (2019): 176. doi.org/10.3390/a12090176

**Bone Marrow Derived SH-SY5Y Neuroblastoma Cells Infected by Kaposi's Sarcoma Herpes Virus (KSHV) Display Unique Infection Phenotypes and Growth Properties (*in press*)**
Kong, Xiaohong and Li, Dongmei and Mansouri, Amirsalar and Kang, Guobin and Sayood, Khalid and West, John and Wood, Charles. 2021. "Bone Marrow Derived SH-SY5Y Neuroblastoma Cells Infected by Kaposi's Sarcoma Herpes Virus (KSHV) Display Unique Infection Phenotypes and Growth Properties." *Journal of Virology* (American Society for Microbiology Journals). doi:10.1128/JVI.00003-21

**Automated Concussion Detection (*Manuscript in preparation*)**
Mansouri, Amirsalar and Ledwidge, Patrick and Sayood, Khalid and Molfese, Dennis (2021).

## Conferences/Workshop Attended

2017 IEEE International Conference on Electro Information Technology (EIT) (May 2017)
2017 American Epilepsy Society Annual Meeting (AES) (December 2017)
Workshop on NGS Data Analysis, MASTERING RNA-SEQ (April 2018)
2018 Midwest Big Data Summer School (July 2018)
2019 UNL Research Fair graduate session (April 2019)

## Awards and Honors

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| *2019* | UNL Research Fair graduate session ECE department 2nd place (April 2019). |
| *2017* | College of Engineering Graduate Student Conference Travel Grant. |
| *2002-2009* | Member of the National Organization for Development of Exceptional Talents, Iran. |
| *2006* | Ranked 3rd in NODET's High Schools RoboCup Competition, HelliCup, Tehran, Iran. |
| *2006* | Ranked 2nd in Noshirvani University of Technology National RoboCup Competition, Babol, Iran. |
| *2007* | Ranked 2nd in NODET's High Schools RoboCup Competition, HelliCup, Tehran, Iran. |
| *2007* | Ranked 2nd in Junior Soccer league Iran Open International RoboCup Competition, Tehran, Iran. |

## Top Ranked Scores

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| ECEN 996 Computational Intelligence (A) | CSCE 872 DIGITAL IMAGE PROCES (A) |
| CSCE 872 DIGITAL IMAGE PROCES (A) | CSCE 874 INTRO DATA MINING (A-) |
| ELEC 996 Bayesian Networks (A+) | CSCE 878 INTRO MACHINE LRNG (A) |
| ELEC 863 DIGITAL SIGNAL PROC (B+) | ELEC 996 Bayesian Networks (A+) |
| ECEN 853 Biological Image & Signal Processing (A) | ELEC 863 DIGITAL SIGNAL PROC (B+) |
| SLPA 981 Neuroimaging & Language Disorders (A) | ELEC 852 BIOINFORMATICS (B+) |

## Teaching Experience

**Fall 2014 - Present** Teaching Assistant of Department of Electrical and Computer Engineering Department

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| ELEC 211 (Elements of Electrical Engineering I) | ECEN 216 (Electronics and Circuits II) |
| ECEN 220 (Introduction to Embedded systems) | ECEN 231 (Electrical Circuits I- Lab) |
| ELEC 222 (Introduction to Embedded Systems) | ECEN 304 (Signals and Systems I) |
| ECEN 307 (Electrical Engineering Laboratory I- Lab) | ELEC 462 (Communication Systems) |

**Summer 2015** Upward Bound Math Science

Teaching Robotics, introduction to electronics and the microcontroller and robotics.

**Fall 2009**
**Spring 2010**
**Fall 2012** Teaching Assistant of School of Electrical & Electronic Engineering, Iran University of Science & Technology, Behshahr, Iran

Electronic II (Fall 2012), Computer Programming (Fall 2009 and Spring 2010)

## Computer Skills

**Programming Languages**: MATLAB, Python (TensorFlow, NumPy, PyTorch, …), C++, Assembly, Pascal, Basic, Familiar with R, C#, HTML, PHP

**Circuit Simulation and Analysis**: PSpice, Proteus (ISIS), CodeVision AVR, Arduino

**CAD Softwares**: AutoCAD, Corel Draw

**Operating System**: Microsoft Windows, Mac OS, and Familiar with Linux (Ubuntu)

**Typesetting**: Microsoft Office, LaTeX

## Language Skills

English, Farsi and familiar with Turkish and Arabic.

## Voluntary Activities

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| Judging the UNL Research fair posters | Lincoln NE April 2019 |
| The Valley Flood relief | Valley Nebraska April 2019 |
| Walk to End Epilepsy | Lincoln NE May 2019 |

## Extracurricular Activities

Biking, Learning & Playing Violin, Poems, Volleyball, Basketball, Camping, Thinking,…