Elyas Heidari

Curriculum Vitae

Sharif University of Technology (SUT)
Department of Computer Engineering,
Department of Mathematical Sciences
CE 504, Azadi Ave., Tehran, Iran
✆ +98 915 697 1096
✉ elyas.heidari@embl.de
🖰 https://www.linkedin.com/in/elyas-heidari-71024a42/
 EliHei
✉ almasmadani@gmail.com

Imagination is more important than knowledge. Einstein

Educational Background

2015 **BSc Mathematics and Applications**, *Department of Mathematical Sciences - Sharif University of Technology*.

2014 **BSc Computer Engineering**, *Department of Computer Engineering - Sharif University of Technology*.

2010 **2014** **Diploma Mathematics and Physics**, *Hashemi-Nezhad High school of Exceptional Talents*.

Research Interests

- Biostatistics
- Machine Learning
- Data Science
- Computational Biology
- Mathematical Biology

Research Experiences

European Molecular Biology Laboratory (EMBL)

07/18- Multi-omics Statistical Analysis of Chronic Leukemia Lymphoma

ADVISORS Dr. Junyan Lu, Dr. Wolfgang Huber

European Molecular Biology Laboratory (EMBL)

08/18- Network-Based Metric on Single-cell Transcriptomics

ADVISORS Dr. Laleh Haghverdi, Dr. Wolfgang Huber

Carnegie Mellon University
Sharif University of Technology

03/18- Prediction of Non-ribosomal Peptide Synthetase Substrates with Deep Learning

ADVISORS Dr. Ali Sharifi-Zarchi, Dr. Hossein Mohimani

Royan Institute of Stem Cell Biology and Technology
Sharif University of Technology

06/17-02/18   Investigating Role of PIN1 in Alzheimer's Disease Progression
ADVISORS   Dr. Ali Sharifi-Zarchi, Dr. Koorosh Shahpasand

Yazd Cardiovascular Research Center
Sharif University of Technology

04/17-07/18   Statistical Tools for Analysis of Health Surveys
ADVISORS   Dr. Ali Sharifi-Zarchi, Prof. Mahmood Sadr

Sharif University of Technology

05/16-05/17   Extracting and Analysis of Functional Brain Connectome from fMRI Data
ADVISOR   Dr. Abolfazl Motahhari

Sharif University of Technology

10/15-05/16   Genome-wide Association Study on Iranian Data
ADVISOR   Dr. Abolfazl Motahhari

Teaching Experiences

Teaching Assistant

CE@SUT   Fundumenetals of Programming, Advanced Programming, Engineering Probability and Statistics, Bioinormatics, Advanced Bioinformatics, Discrete Structures, Stochastic Processes, Optimization for Artificial Intelligence, Introduction to Linear Algebra

Math@SUT   Probability and Applications, Statistics and Applications, Stochastic Processes
EE@SUT   Computational Genomics

Lecturer

IC@SUT   Java Programming

Related Courses

Computer Engineering

Advanced Programming: 19/20
Engineering Probability and Statistics: 19.7/20
Bioinformatics (Grad Course): 20/20
Large-scale Biological Data Analysis (Grad Course): 20/20
Analysis and Design of Information Systems: 19.2/20
Discrete Structures: 18/20
Database Design: 17.2/20

Mathematics

Differential Equations: 19.4/20
Stochastic Processes: 18.9/20
Statistics and Applications: 19/20
Linear Algebra: 17.2/20
Topics in Statistics (Grad Course): 18/20
Game Theory: 19.9/20
Mathematical Biology: 18/20
Non-linear Optimization (Grad Course): 18/20
Data Analysis: 20/20

Publications

Finished | **Pin1 Regulatory miRNAs as Novel Candidates for Alzheimer's Disease Treatment**
E. Heidari, E. Salehi Siavashani, M. Rasooli, A. Sharifi-Zarchi, K. Shahpasand
Submitted to Journal of Alzheimer's and Dimentia

Multivariate Analysis and Visualization with R Package muvis
E. Heidari, V. Balazadeh-Meresht, A. Sharifi-Zarchi
Will be submitted to Journal of Statistical Software

In Progress | **Comprehensive Analysis of YaHS Health Survey**
E. Heidari, N. Ahmadi, A. Sharifi-Zarchi, M. Sadr

Precise Prediction of NRPS Substrates with Multitask Learning
E. Heidari, A. Sharifi-Zarchi, H. Mohimani

A New Network-Based Metric for Single Cell Transcriptomics
E. Heidari*, L. Haghverdi*, W. Huber

A Definition for TP53ness: Hypoxia
E. Heidari, J. Lu, W. Huber, T. Zenz

SeqLearner: A Python Module for Semi-Supervised Learning of Biological Sequences
E. Heidari, A. Sharifi-Zarchi

Software Development

muvis | Multivariate Analysis and Visualization in **R** (muvis documentation)

SeqLearner | Multitask Learning for Biological Sequences (GitHub repository)

Skills

Programming | Extensively experienced in **Python** (machine/deep learning and algorithmic programming), **R** (data analysis and visualization), **Java** (software development), and **Bash** (system programming).

Languages | Persian (Native), English (Working Proficiency)

Other Activities

CE@SUT | Member of Board in **Students' Scientific Chapter**

References

Wolfgang Huber | Group Leader and Senior Scientist, EMBL, Heidelberg
Ali Sharifi-Zarchi | Assistant Professor, Sharif University of Technology
Abolfazl Motahhari | Assistant Professor, Sharif University of Technology
Laleh Haghverdi | Postdoctrol Fellow, EMBL, Heidelberg
Junyan Lu | Postdoctrol Fellow, EMBL, Heidelberg