Curriculum Vitae

Behnam Yousefi

Birth date: 15 Jan 1991
Email: yousefi.bme@gmail.com
Mobile: +33 6 95 79 5855
Address: 48 Rue des Arts 94170 Le Perreux-sur-Marne, France.

Education

PhD Student in Computational Biology

Computational Biology Department, Institut Pasteur, Paris, France;
École Doctorale Complexité du Vivant, Sorbonne Université, Paris, France
Feb. 2020-2023.
Thesis: Integrative modeling of cancer drug response and auto-immune disease base on network-based machine learning techniques (under the supervision of Dr. Benno Schwikowski).

Secondments:

- BIO3 – Laboratory for Systems Medicine, KU Leuven, Leuven, Belgium (4 month)
  Subject: Medical applications of individual specific networks (under the supervision of Prof. Kristel van Steen)
- InSilicoTrials company, Trieste, Italy (3 months)
  Subject: Market analysis of compounds for neurodegenerative diseases (under the supervision of Dr. Roberta Bursi and Dr. Fienne Sips)

Master in Biomedical Engineering, Bioelectric

Iran University of Science and Technology (IUST), Tehran, Iran, Sept. 2015- Feb. 2019.
GPA: 18.18/20 *(**Top Student**, the average GPA in Biomedical Engineering Department is 16.10/20)*
Thesis: Diagnosis and treatment of obstructive sleep apnea based on machine learning techniques (in *Iran Neural Technology Research Center* under the supervision of Prof. Abbas Erfanian*)*.

Bachelor in Electrical Engineering, Electronics

Azad University (Abhar branch), Abhar, Zanjan, Iran, 2009-2014.
GPA: 19.14/20 (***Top Student***)
Thesis: Design and implementation of a hardware based on AVR microcontroller for data transfer in control systems.

High School Diploma in Physics and Mathematics

Exemplary School of Imam Sadegh, Abhar, Zanjan, Iran. 2005-2008.
GPA: 17.91/20

Honors and Awards

Awarded the **Marie Skłodowska-Curie Actions fellowship** for PhD studies, 2020.
Top Student Award of biomedical engineering department, Iran University of Science and Technology, 2016.

Ranked in the top 1% of the National University Entrance Examination, 2015.
Top Student Award of electronics engineering department, Azad University, 2011.
Top Student Award of electronics engineering department, Azad University, 2010.
Accepted in the first stage of National Astronomy Olympiad, 2007.

Experimental and Professional Experience

Machine learning: supervised and unsupervised machine learning, deep learning, graph neural networks, recommender systems, consensus clustering.

Network analysis: graph representation learning, multilayer and heterogenous graph analysis, graph-based clustering.

Data analysis: data preprocessing and normalization, statistical tests, low dimensional representation.

Systems and signals modelling: noise reduction, adaptive filters, spectral analysis, wavelet analysis.

Chaos and nonlinear dynamics: phase space reconstruction, Poincare section, complexity and entropy measures.

Bioinformatics: network biology, gene expression data (RNAseq and microarray) analysis, gene module detection, gene enrichment analysis.

Neural data analysis: spike sorting, spike train and LFP signal analysis, neural decoding,

Visualization: efficient visualization of computational pipeline and results.

Other Skills

Scientific software and languages:
R, Python, MATLAB, LabVIEW, C/C++, HTML, CSS, Bash, SLURM, Reproductivity techniques (git, Docker, Conda)

Languages:
English (full professional), Persian (native), French (beginner).

Publication

Farzaneh Firoozbakht, **Behnam Yousefi**, Benno Schwikowski, "An Overview of Machine Learning Methods for Monotherapy Drug Response Prediction", briefings in bioinformatics, 2021 (DOI: 10.1093/bib/bbab408)

Behnam Yousefi, Benno Schwikowski, Kristel Van Steen, "Individual-specific network inference to capture dynamic microbiome interactions" (submitted)

Behnam Yousefi, Farzaneh Firoozbakht, Benno Schwikowski, "Robust Stratification Through Consensus Clustering in Bioinformatics" (under preparations)

Posters and Abstracts

1- ASHG (American Society of Human Genetics) conference-2021: "Individual Specific Networks Hot Zone Detection"
2- IGES (International Genetic Epidemiology Society) conference-2021: "Novel analysis pipeline for microbiome data via individual-specific networks"
3- IGES (International Genetic Epidemiology Society) conference-2022: "Individual-specific Networks and Representation Learning to Capture Dynamics of Microbiome interactions"