

IMAN DEZNABI

413-313-9120 ◊ 254 CICS, UMass, Amherst, MA 01002 ◊ iman@cs.umass.edu

www.linkedin.com/in/ideznabi ◊ www.github.com/ideznaby ◊ <https://people.cs.umass.edu/~iman/>

WORK EXPERIENCE

Microsoft Research, Part-time Researcher (Feb 2024 – Present)

- Developing novel deep-learning models for microclimate forecasting at the Research for Industry Group

Microsoft, Data Science Intern (Jun 2022 – Aug 2022)

- Developed an end-to-end system that forecasts the hourly number of requests on databases and scales them accordingly. This system significantly reduces database costs and reduces the amount of throttled requests.

Kronos Incorporated, Data Science Intern (Jun 2019 – Aug 2019)

- Improved hierarchical forecasting of real sales by more than 60% using deep learning models.

EDUCATION

Ph.D. in Computer Science Amherst - MA

University of Massachusetts Amherst, GPA: 4 /4 (Sep 2018 – Dec 2024)

M. Sc. in Computer Science (Awarded Dec 2021)

Thesis title: Adaptive Deep Learning Models for Personalized Modeling of Heterogeneous Time-Series Data

M. Sc. in Computer Engineering Ankara - Turkey

Bilkent University, GPA: 4 /4 (Sep 2015 – Jun 2018)

Thesis title: DeepKinZero: Zero-Shot Learning for Predicting Kinase Phosphorylation Sites

B. Sc. in Information Technology Engineering Tabriz - Iran

University of Tabriz, GPA: 17.48 /20 (**3.67** /4), Last two years GPA: **3.95/4** (Sep 2010 – Feb 2015)

Thesis title: Algorithmic music composition according to human feelings with Hidden Markov Models

ACADEMIC RESEARCH EXPERIENCE

University of Massachusetts Amherst, Research Assistant Amherst - MA

Information Fusion Lab (Sep 2018 – present)

- Designed and implemented various novel models for **personalized multi-resolution, multi-modal, and irregularly sampled time-series data** for various applications such as climate prediction, healthcare, and systems.

Machine Learning for Data Science Lab (Summer 2020 and 2021)

- Adopting and running **large-scale deep learning and massive Gaussian Processes models on continental scale** weather radar data streams.
- Developed and deployed **hierarchical continuous-time models** leveraging **Bayesian models** to analyze irregular time-series GPS data of animal movements, enhancing ecological research efforts.

Bilkent University, Research Assistant Ankara - Turkey

TastanLab (Sep 2015 – Aug 2018)

- Implementation of **Zero-Shot learning** in Computational Biology for the **first time with DeepKinZero**
- Development of **Negative Association Rule mining** to find **driver mutations in cancer**.
- Designed and implemented a custom **Belief Propagation algorithm** for **inferring genome of a victim**.

TECHNICAL STRENGTHS

Computer Languages	Python, Java, C#, Matlab, R, C, C++
Tools	Pytorch, Tensorflow, Keras, Pyro, Spark, Hugging Face, Scikit-learn, Opencv
Database Management	Microsoft SQL server, MySQL
Cloud Computing	Azure, AWS

PUBLICATIONS

- **I. Deznabi**, Y. Lou, A. Shaw, N. Simsiri, T. Rahman, M. Fiterau “**Dynamic Clustering via Branched Deep Learning Enhances Personalization of Stress Prediction from Mobile Sensor Data**” Nature Scientific Reports (2024)
- **I. Deznabi**, V. Jacob, M. Fiterau, Y. Diao “**Anomaly Detection in Real-World Financial Transactions: An Experimental Study**” In submission at KDD (2024)
- **I. Deznabi**, P. Kumar, M. Fiterau “**Zero-shot micro-climate prediction with deep learning.**” Tackling Climate Change with Machine Learning workshop NeurIPS (2023)
- **I. Deznabi**, M. Fiterau “**MultiWave: Multiresolution Deep Architectures through Wavelet Decomposition for Multivariate Timeseries Forecasting and Prediction.**” Conference on Health, Inference, and Learning (2023).
- C.H. Fleming, **I. Deznabi**, Shauhin Alavi, Margaret C. Crofoot, Ben T. Hirsch et al. “**Population-level inference for home-range areas.**” Methods in Ecology and Evolution journal (2022).
- **I. Deznabi**, M. Iyyer, M. Fiterau, “**Predicting in-hospital mortality by combining clinical notes with time-series data**” ACL-IJCNLP (2021) Findings
- **I. Deznabi**, T. Motahar, A. Sarvghad, M. Fiterau, N. Mahyar, “**Impact of the COVID-19 Pandemic on the Academic Community: Results from a survey conducted at University of Massachusetts Amherst**” ACM (2020), Digital Government: Research and Practice, COVID-19 Commentary
- **I. Deznabi**, B. Arabaci, M. Koyuturk, O. Tastan. “**DeepKinZero: Zero-Shot Learning for Predicting Kinase-Phosphosite Interactions**” Bioinformatics Journal (2020) Also presented at the ICML 2020 Workshop on Computational Biology as a highlight paper
- A. Shaw, N. Simsiri, **I. Deznabi**, M. Fiterau, T. Rahman “**Personalized Student Stress Prediction with Deep Multitask Network**” ICML 2019, Adaptive and Multitask Learning Workshop
- R. Uppaal, B. Kucharski, BP. Singh, **I. Deznabi**, M. Fiterau, “**Multi-resolution Attention with Signal Splitting for Multivariate Time Series Classification**” ICML 2019, Time-Series Workshop
- **I. Deznabi**, BP. Singh, B. Narasimhan, B. Kucharski , R. Uppaal , A. Josyula, M. Fiterau, “**Multi-resolution Networks For Flexible Irregular Time Series Modeling (Multi-FIT)**” (Technical Report)
- **I. Deznabi**, A. Celik, O. Tastan, “**MEMNAR: Finding mutually exclusive mutations in cancer using negative association rule mining**” ISMB/ECCB Workshop on Machine Learning in Systems Biology (2017)
- **I. Deznabi**, M. Mobayen, N. Jafari, O. Tastan, and E. Ayday. “**An Inference Attack on Genomic Data Using Kinship, Complex Correlations, and Phenotype Information.**” IEEE/ACM Transactions on Computational Biology and Bioinformatics (2017)

ACADEMIC SERVICES AND OTHER ACHIEVEMENTS

- **Peer-Reviews:** - ICML 2024, 2020 - ICLR 2023 - JBHI 2023 - NeurIPS 2022, 2021 - ML4H 2019, 2018 - AISTATS 2018 - TCBB 2017
- Ranked **second** in **B/S/H data mining contest** (Hackathon in Analytics for Production Excellence) in Istanbul, Turkey, May 2017.
- Ranked **second** in **Ankara Hack Fest** coding competition, Ankara, Turkey, May 2016.