

# Negin Maddah

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## EDUCATION

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| • Ph.D. in Industrial Engineering, Northeastern University, Boston, MA (GPA 3.86). Anticipated Graduation 12/2026 |
| • Graduate Certificate in Data Analytics Engineering, Northeastern University, Boston, MA. 12/2026                |
| • M.Sc. in Industrial Engineering, K.N.Toosi University of Technology, Tehran, Iran. 01/2020                      |
| • B.Sc. in Industrial Engineering, University of Alzahra, Tehran, Iran. 09/2017                                   |

## SKILLS

- **Programming and Tools:** Python (Pandas, NumPy, scikit-learn, PyTorch/TensorFlow), R, SQL.
- **AI:** Deep learning (CNN/RNN/Transformers/LLMs), supervised/unsupervised learning, reinforcement learning.
- **Statistics:** time-series and causal inference (DiD, regression discontinuity, event study with synthetic control).
- **Experimentation and Testing:** Hypothesis testing, multivariate stat, A/B & quasi-experiments, sensitivity analysis.
- **Communication and Leadership:** Led content design and storytelling of data mining workshops for non-technical industrial leaders (in 1 academic + 3 industry settings).
- **Selected Courses:** Machine Learning, Generative AI, Data Mining, Statistical Methods.
- **Certifications:** Applied Social Network Analysis in Python (Online: University of Michigan, 2024), Business Analyst with Process Mining (Celonis: Leading Cloud-Platform in Business Intelligence, 2021).

## EXPERIENCES

### Northeastern University – MAGICS Lab (Boston, MA): Graduate Research/Teaching Assistant

01/2022 – Present

- Developed Python pipelines to **estimate platform-wide treatment (LLM tools) effect on 1M-user behavior** (time series analysis).
- **Modeled 200k+ user-pair interaction patterns** using RNN/LSTM and NLP.
- Designed **agent-based simulation and data-driven optimization to quantify intervention opportunity**: yielding a +9% system-level performance across Monte-Carlo scenarios.
- Selected Recognition:
  - **Best Presentation Award, 2025 CESUN,**
  - **PhD Merit Award for Excellence in Research, College of Engineering, 2024,**
  - **Plenary Talk (20/700 submissions selected), ~1000 audience in 2024 IC2S2,**
  - **Publications:** journal of Reliability Engineering and System Safety (**IF: 12.4**), IEEE-CSS,
  - **Ranked 1st** in Ph.D. candidacy exam.
- Taught **Economic Decision-Making** to 200+ grad students; topics included NPV/TVOM/IRR, sensitivity/risk analysis.
- **Managed a graduate-level online course design** (College of Engineering, fall 2025): Scripted video modules, co-designed/coordinated animations, and served as on-camera instructor.

### Harvard Medical School – Nezami Lab (Boston, MA): AI Researcher

05/2025 – Present

- Led a **data fidelity project**: benchmark of missing-data imputation methods (transformer-based, GAN, diffusion, VAE, random forest) on 13k cases; prediction of downstream outcomes.
- Modeled a hybrid GRU-transformer-based architecture for **time-series forecasting** (1-hour ahead real-time warning): ~95% balanced accuracy
  - **Spotlight Presenter, 2025 MIT-MGB AI-Cures.**

### ABPMP/Behfa Consulting /Golrang Industrial Group (Tehran, Iran): Systems/Processes Analyst

07/2018 – 12/2021

- Translated client requirements for a managerial dashboard design.
- Led a data/process mining project identifying improvement opportunities of business processes.