

FARBOD ALINEZHAD

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SUMMARY

Physician-scientist with expertise and graduate-level training in a broad range of topics, including biomedical sciences, machine learning, health economics, biostatistics, population health, and medical education. Highly skilled and experienced in analyzing high-dimensional healthcare data using R, SQL, and Python on high-performance computation clusters. Extensive experience in leading and contributing to research projects with cross-disciplinary teams and translating data analysis results into publications and actionable insights. Highly interested and curious to apply skills and knowledge from different disciplines to solve complex real-world problems.

EDUCATION

Northeastern University

Boston, MA

Ph.D. Student in Population Health (Health Economics)

Expected 2024

Advisor: Dr. Brady Post

Research Focus: Physician-Hospital vertical integration

Awards: Stipended Graduate Assistantship

Relevant Coursework: Machine Learning, Advanced Biostatistics, Algorithms, Project Management,

Microeconomic Theory, Data Visualization, Explainable AI, Advanced Machine Learning*,

Deep Learning*, Advanced Econometrics*

GPA: 4.0

*Enrolled Spring 22-23

Tabriz University of Medical Sciences (Triple Degree)

Tabriz, Iran

M.D. (Doctor of Medicine)

2021

Thesis: The effects of smoking on health expenditure of Iranian households, a 30-year study

Awards: Three times Iran's National Elites Foundation student award winner,

Two times gold, and one-time bronze medalist in National Medical University Science Olympiads

Relevant Coursework: Physiology, Medical Genetics, Immunology, Pathology, Pharmacology

GPA: 3.90

MPH (Master of Public Health)

Thesis: Fiscal space analysis of the Iranian healthcare system

Relevant Coursework: Epidemiology, Biostatistics, Healthcare Management, Health Economics

GPA: 3.95

M.Sc. Medical Education

Thesis: Translation and validation of the tool for medical student inquiry behavior assessment

Relevant Coursework: Qualitative Research Methods, Course and Program Development, Learning Theory

GPA: 3.85

SKILLS

Programming Languages: R, SQL, Python, Bash, Latex, Markdown

Select Packages: JAGS (for Bayesian Latent Variable Models), Keras, Tensorflow, data.table, Tidyverse, ggplot2, survey, lme4 (hierarchical model analysis)

Software: Slurm (for HPC), Conda, Git, Microsoft Office Suite, Pycharm, VScode, DataSpell, Jupyter Lab, SPSS

Laboratory: PCR and RT-PCR, ELISA, Immunofluorescence

Languages: English (fluent), Farsi (native), Azeri (native), Turkish (fluent), German (limited)

RESEARCH EXPERIENCE

Northeastern University

Graduate Researcher

- Research project on the effects of vertical integration on the practice styles of cardiologists in the USA
 - Performed all the analyses for the project on the Medicare claims data (5 million patients across seven years)
 - Presented an abstract of the project in Academy Health 2022
 - Publication under review by Health Affairs (leading health services research journal)
- Research projects on the effects of vertical integration on the costs of care and outcomes of cardiology patients
 - Several studies in different stages of preparation
- Research project on the use of Bayesian Latent Variable Models in understanding the effects of Socioeconomic factors on childhood diabetes
 - Performed the analyses using JAGS in R
- Algorithms class project: Prediction of physician specialty in claims data using K-nearest neighbors
- Machine Learning class project: Understanding the effects of physician practice style on the healthcare outcomes of patients using clustering and hierarchical (mixed effects) modeling techniques
- Population health class project: Predictors of physician vertical integration

Tabriz University of Medical Sciences

Research Assistant in Virology and Health Economics labs (select experiences)

- Research project on universal health coverage and financial risk protection in Iran
 - International collaboration with Dr. Chunling Lu from Harvard global health and social medicine department and Dr. Ilker Dastan from WHO EMRO
 - Designed and performed all the analyses and prepared the manuscript
- Research article on Rabies in the Middle East
 - International collaboration with Dr. Charles Rupprecht from the USA and Dr. Ivan Kuzmin from Russia
 - Collaborated in the preparation of the manuscript and figures
- Many other publications are available from my Google Scholar page linked above.

PROFESSIONAL EXPERIENCE

Northeastern University

Stipended Graduate Assistant (SGA)

2021-Present

- Includes research and teaching assistantships

Tabriz University of Medical Sciences

Medical Intern

2019-2020

- Worked in different university hospital wards, including Covid wards

Teaching assistant for healthcare management classes

2018-2020

- Taught health economics and healthcare management to medical and public health students

Team member

2018-2021

- Member of the National Public Health Management Center team in collaboration with WHO EMRO in developing hospital performance indicators
- Member of the team conducting an international course on hospital performance indicators at the National Public Health Management Center