




Faraz Sarmeili

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 Sarmeili

 farazsarmeili.me

About me

I am a PharmD student interested in interdisciplinary fields with 3 years of experience working with data science. I am currently working as a data scientist in a pharmaceutical company. Also, I am conducting my thesis in the area of pharmaceutical sciences and deep learning using Protein-Protein Interaction (PPI) network, Genomic Features and Graph Neural Network (GNN) for drug representation to predict the response of drugs on cancerous cell lines. My goal is to bridge the gap between pharmaceutical sciences and technology, using AI, machine learning, and data-driven approaches to innovate and solve complex issues in the pharmaceutical sector.

Education

Doctor of Pharmacy - PharmD, Pharmacy

2018 - Now

Tehran University of Medical Sciences

GPA : 3.33/4 (16.02/20)

- **Awards & Honors:** Ranked in the **top 0.1%** of entrants in the National University Entrance Exam for Experimental Sciences, a rigorous examination for admission to medical and biological sciences programs in Iran, Received a **full scholarship** from Tehran University of Medical Sciences, **ranked as the top pharmacy school in Iran**
- **Related University Courses:** Statistics, Mathematics, Pharmaceutical Biotechnology, Pharmaceutical Administration, Medicinal Chemistry, Pharmacology & Toxicology, Pharmacotherapy, Pharmacognosy, Pharmaceutics & Formulation
- **Self-taken Courses:** Graph Neural Network (CS224w), Time Series Forecasting, Deep Learning, Statistical Learning, Bioinformatics, Data Analysis, Computational Biology

Research Interest

Graph Neural Network, Drug Discovery, Protein Design, Deep Learning, Precision Medicine, Protein Design, Pharmacogenomics, Computational Biology

Experience

Industry Experience

Data Science Intern

1/2024 - 9/2024

Orchid Pharmed, Tehran, Iran, Full-time

Orchid Pharmed is a medical sales and marketing company specializing in biotechnology pharmaceutical products. Esteemed biotechnology producers in Iran, such as **Cinnagen and Aryogen Pharmed**, entrust Orchid Pharmed with running clinical trials, pharmacovigilance of drugs, and the sales and marketing of their products. I currently work on data science projects aimed at enhancing data-driven decision-making within the organization.

- Conducted time-series analysis to better forecast the demand for biotechnology products. This analysis was based on multiple factors including disease characteristics, pharmacoepidemiology, product sales, and various other features.

Drug Information Specialist

2/2023 - 2/2024

Drug and Poison Information Center (DPIC), 13Aban Pharmacy Complex, Tehran, Iran, Part-time

Provided expert guidance on various aspects of drug usage, including indications, dosing, drug use during pregnancy and breastfeeding, overdose and toxicity management, and adverse drug reaction (ADR) management.

Pharmacist

2/2022 - 2/2023

13Aban Pharmacy Complex, Tehran, Iran, Part-time

Worked as a pharmacist in one of the largest and most important pharmacies. Responsibilities included checking prescriptions, educating patients on proper drug administration, and providing pharmaceutical counseling to patients and other clinical staff.

Artificial Intelligence Developer Intern

4/2021 - 3/2022

AIMedic, Tehran, Iran, Part-time

AIMedic is a start-up studio focused on offering AI products in the healthcare industry. Worked on medical image processing, utilizing deep learning methods as computer vision tools to improve disease diagnosis.

- Worked on echocardiographic image (ultrasound sequences) segmentation to detect heart regions and estimate related clinical info such as ejection fraction.
- Links: github.com/Sarmeili/lv-seg , github.com/Sarmeili/echostrain

Data Analysis Intern

9/2020 - 04/2021

Tachra Daru, Tehran, Iran, Part-time

Tachra Daru is a generic drug company with a portfolio including nasal sprays and solid dosage forms such as tablets and sachets. Worked as a Junior Data Analyst to better understand the market and sales data structure, and to propose new products based on market research as a final project in internship period.

Research Experience

Computational Biology Researcher

10/2022 - Now

[Data Science & Machine Learning Lab \(DML\)](#), Tehran, Iran

I work as a researcher in the Data Science & Machine Learning Lab (DML) at Sharif University of Technology, collaborating with bioinformatics and computer science master's, PhD, and postdoctoral students under the supervision of esteemed professors. Sharif University of Technology is the top-ranked technology university in Iran.

Pharmaceutics Research Internship

5/2022 - 8/2022

Cinnagen, Aryogen Pharmed, Pasteur Institute, Tehran, Iran

As part of a university assignment, I completed a three-month internship aimed at gaining a deeper understanding of industrial research, particularly in high-tech companies manufacturing biotechnology products on a large scale. This internship followed comprehensive coursework in pharmaceutics, biopharmacy, and advanced formulation, which I completed with a **4.0 GPA**.

The internship took place at the manufacturing sites of **Cinnagen, Aryogen Pharmed, and the Pasteur Institute**, providing me with hands-on experience in the biotechnology industry.

Teaching Experience

A Short Course on Deep Learning in Medical Sciences

4/2022 - 6/2022

Tehran University of Medical Sciences, Tehran, Iran

Initiated and conducted a voluntary project titled 'A Short Course on Deep Learning in Medical Sciences' aimed at educating pharmacy and medicine students about machine learning and deep learning, and their potential impact on our field's future.

Recognizing the absence of such courses in our pharmacy school curriculum, I organized this project to raise awareness among peers about these emerging technologies. I shared my personal journey of entering this field without a solid background and obtaining a job, aiming to inspire others who are interested in statistics or mathematics to explore this field further.

Academic Projects

- **Drug Response Prediction using deep learning models:** This **PharmD thesis project** aimed to predict the response of drugs in preclinical studies where responses were previously unknown. By representing drug molecules, various compounds, and the protein-protein interaction networks of cell lines as graphs, alongside leveraging genomic information of each cell line, the project employed Graph Neural Networks (GNNs) and other advanced statistical modeling tools to forecast the Area Under the Curve (AUC) of dose-response curves for cancerous cell lines using **pytorch-geometric** library. This Project is being done in **DML of Sharif University of Technology, the top rank technology university in Iran**. Links: github.com/Sarmeili/DrugRankingProject
- **Toward Trustworthy AI in Pharmaceutical Sciences:** A comprehensive study examining AI trends in various aspects of pharmaceutical science. This project explored available AI services in the pharmaceutical industry, pharmaceutical care, and the perspectives of regulatory organizations on the use of AI. The project aimed to identify ready-to-use research and products in this field and assess the trustworthiness of these AIs. The findings were presented as a lecture at the weekly scientific meetings of the Institute of Pharmaceutical Sciences (TIPS).

Skills

Technical Skills

Programming Language: Python, VBA, SQL
Version Control Systems: Git
Deep Learning Frameworks: Pytorch, Tensorflow
Machine Learning Frameworks: Scikit-Learn

Data Analysis Frameworks: Pandas, Numpy, Matplotlib, Seaborn
Web-scraping Frameworks: Selenium, BeautifulSoup
Other Softwares: Docker, MS Office, Jira, Linux

Language Skills

Persian: Native

English: Full Professional Proficiency

Soft Skills

Communication Skills, Critical Thinking, Team Work, Problem Solving, Presentation Skills, Time Management

Memberships

Data Science & Machine Learning Lab

Sharif University of Technology, Tehran, Iran

Two years of research and learning from leading researchers and professors in the field of computational biology. Currently conducting my PharmD thesis in this lab under the supervision of experts in the field.

Exceptional Talent Development Center (ETDC)

Tehran University of Medical Sciences, Tehran, Iran

Led the Pharmacy Students Central Council at ETDC with a focus on providing educational and research opportunities for pharmacy students at TUMS. Implemented extracurricular initiatives to enhance the academic experience and foster research engagement among students.

ISPOR “10 Best Trends in Pharmacoconomy and Healthcare Policy in 2019” Seminar

Tehran University of Medical Sciences, Tehran, Iran

Member of executive team of 2019 international seminar of The Professional Society for Health Economics and Outcomes Research (ISPOR)

Hobbies and Interests

Playing video games, Playing ping-pong, Listening to podcasts, Watching movies, Socializing with friends and family

References

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Relationship: Supervisor Professor

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Relationship: Supervisor Professor

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Relationship: Manager