

# Mohammad Parsa

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## EDUCATION

### University of California, Berkeley

Berkeley, CA

*Ph.D. in Applied Science and Technology (GPA: 3.9)*

*Expected: July 2026*

- Awards: NSF AI Research Resource Pilot Funding, UC Berkeley Entrance Scholarship (\$30K), NSERC Grant (\$80K/year for 3 years)

### University of Waterloo

Ontario, Canada

*M.Sc. in Management Sciences (GPA: 4)*

*Graduated: August 2021*

- Awards: Ontario Graduate Scholarship (\$15K), President's Graduate Scholarship (\$5K), Aapoolcoyuz Biman Scholarship (\$5K)

### Iran University of Science and Technology

Tehran, Iran

*B.Sc. in Industrial Engineering (GPA: 3.8)*

*Graduated: July 2019*

- Awards: Top 0.5% in National Entry Exam (among 250K+ students), 7th place in national startup event

## WORK EXPERIENCE

### 310.Ai

San Francisco, CA

*AI/ML Scientist & Software Engineer*

*(Part-time) May 2023 – Present*

- Developed and trained a protein language model on a dataset of 280 million protein sequences, generating phylogenetically valid trees, improving evolutionary relationship prediction accuracy by 15%.
- Collaborated with a team of 5 biologists and 3 data scientists to design deep learning models for protein engineering, reducing model training time by 20% through optimized workflows.
- Analyzed correlations between protein features and lifespan-related phenotypes across 500 species, identifying 3 key biomarkers linked to longevity.
- Supported protein foundation models and a conversational agent by preprocessing a dataset of 300 million protein structures, enhancing training efficiency by 25%.
- Trained 3 multimodal language models for protein design using a dataset of 170 million protein structures, improving prediction accuracy by 23%.
- Optimized transformer-based models, reducing inference time by 18% while maintaining performance across 5 key metrics.

### Molecular Cell Biomechanics Laboratory, University of California, Berkeley

Berkeley, CA

*Graduate Researcher & Teaching Assistant*

*September 2021 - Present*

- Created a multi-modal benchmark for evaluating capabilities of 10+ protein language models.
- Directed AI/ML projects, including NSP15 inhibitor prediction (screened 700 compounds, identifying 260 potential inhibitors) and single-cell RNA sequencing analysis of 1,000 cells.
- Architected a backbone diffusion neural network using VAEs, reducing protein structure prediction error by 10% on a test set of 3 million structures.
- Mentored 50+ students per semester across 3 courses (Principles & Techniques of Data Science, Coaching for High Performance Teams, Teaming & Project Management).

### Data Science Lab, University of Waterloo

Ontario, Canada

*Graduate Research Assistant (AI/ML Focus) & Teaching Assistant*

*September 2019 – December 2021*

- Investigated information diffusion on a network of 1 million+ nodes, identifying key dynamics during the COVID-19 pandemic.
- Analyzed 5,000,000 social media posts using NLP, uncovering 20 insights into COVID-19's impact on mental health and academic integrity.
- Supported 100+ students per term across 3 courses (Big Data Analytics, Engineering Economics, Data Mining).

### Management Information Systems Research Center, IUST

Tehran, Iran

*Undergraduate Research Assistant (ML Focus)*

*July 2016 – July 2019*

- Developed 5 machine learning algorithms to optimize pricing for 100+ medical tests, improving cost-efficiency by 15% across 30 clinical networks.
- Designed a Laboratory Information Management System (LIMS) data model, streamlining data management for 30 laboratories.

## SKILLS & INTERESTS

**Skills:** Python, C++, Java, PyTorch, AWS, GCP, Git, Docker, SQL, OpenCV, Deep Learning, Protein Modeling, Data Visualization, Statistical Analysis, MLflow, Ray

**Interests:** AI in biotechnology, computational biology, data-driven drug discovery, Natural Language Processing