Amir Behbahanian

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EDUCATION

University of California, Berkeley – Haas School of Business — **Expected March 2028**
Master of Financial Engineering — *Berkeley, CA*

Utah State University - College of Engineering — **12/2021**
PhD in Mechanical Engineering — *Utah, Logan*
Achievements: Published 6 peer reviewed articles in reputed journals.

Sharif University of Technology - College of Engineering — **02/2012**
B.Sc. in Mechanical Engineering — *Iran*

SKILLS & CERTIFICATIONS

Programming: Python(PyTorch, BoTorch, PyTorch Lightning, Transformers, Tensorflow, PySpark, Pandas, Numpy, etc.), C++ (Eigen, Boost, Qt, SimpleAmqpClient, etc.), MATLAB, SQL, CI/CD, AWS, Docker
Mathematics: Stochastic Calculus, Time-Series Analysis, Probability Theory, Bayesian Optimization, Computer Vision, LLM Prompt and model Tuning
Languages: English (fluent), Farsi (fluent), German (Intermediate)
Patent Pending: Systems for Rock Blast Design Using Three-Dimensional Geologic Element and Related Methods and Apparatuses (GEM3D)

PROFESSIONAL EXPERIENCE

Blue Origin — **Renton, WA**
Software Engineer III — *06/2025 – Present*
- Developing a multi-modal automated instruction and manufacturing platform where Gemini Flash 2.5 handles OCR, PDF processing, and historical data summarization, Llama2-7B (fine-tuned with a 1K instruction–context–response dataset using LoRA) generates final structured instructions, and a physics-based assembly order generator provides part-level assembly sequences—resulting in over $50M in projected development cost savings.

Dyno Nobel — **Salt Lake City, UT**
Sr. Software Engineer — *04/2024 – 06/2025*
- Built C++ cloud-native blast simulator (Boost [threads & EVE SIMD], Eigen, SimpleAmqpClient); patent pending, first inventor.
- Implemented a RAG system for documentation retrieval (Entire Confluence), reducing engineering search time.

T.D. Williamson — **Salt Lake City, UT**
Software Engineer II — *10/2022 – 04/2024*
- Developed LSTM-based predictive maintenance system, preventing sensor failures and saving up to $500K per run.
- Built semantic segmentation model (FPN + ResNeXt50) for pipeline detection (F1: 0.79); published in ICMLA 2023.

Iran Host — **Iran**
Data Analyst — *03/2012 – 12/2015*
- Applied Time Series analysis to predict seasonal customer behavior.
- Delivered statistical models (MATLAB, C++) to guide personal marketing strategies and realtime data compacting for lower storage cost.

RESEARCH EXPERIENCE

Texas A&M University — **College Station, TX**
Postdoctoral Researcher — *12/2021 – 08/2022*
- Directed a $1.7M AI integration project, embedding ML into large-scale simulation-driven workflows for Bayesian Optimization based material discovery. Published a Paper in a highly reputed journal in less than a year.

PERSONAL PROJECTS

GlimzAI – AI-Powered News Summarization Platform
- Developed and deployed a full-stack AI-powered news platform that ingests daily articles and provides domain-specific summaries (politics, tech, business, science, etc.), improving information accessibility. Built with FastAPI, AWS Lambda, RDS, React, and AWS S3/CloudFront, with CI/CD, Docker-based containerization, and scalable cloud deployment.