# Hiva Mohammadzadeh

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## Education

**University of California, Berkeley** **August 2021 – December 2023**
Bachelor of Science in Electrical Engineering and Computer Sciences Berkeley, CA

**Los Angeles Pierce College** **August 2019 – June 2021**
Associate of Science for Transfer in Computer Science and Programming Woodland Hills, CA

## Relevant Coursework

- Database Systems
- Artificial Intelligence
- Machine Learning
- Deep Learning
- Natural Language Processing
- Deep Reinforcement Learning, Decision Making and Control
- Full-stack Development
- Responsible Generative AI and Decentralized Intelligence

## Skills

**Programming Languages**: Python, Java, JavaScript, C/C++, SQL, MongoDB, Assembly, Fortran, MATLAB, Scheme
**Web Frameworks**: Node.js (Backend), React.js (Frontend), Express.js (Backend), HTML, CSS
**Developer Tools**:Tmux, VS Code, Google Cloud Platform, XCode, IntelliJ, PyCharm, TI Launchpad, and Arduino
**Technologies/Frameworks**: Linux, MacOS, Windows, GitHub, PyTorch, TensorFlow
**Languages**: Bilingual in English and Persian (Farsi)

## Experience

**Natural Language Processing (NLP) Researcher** **February 2023 – Present**
Pallas Group at UC Berkeley AI Research Lab (BAIR) and SLICE Lab Berkeley, CA

- Built an architecture to accelerate generative LLM inference by 40% as co-author for conference paper
- Innovated new approaches for efficient deep learning and NLP with Prof. Kurt Keutzer

**Modeling and Data Science Intern** **May 2022 – September 2022**
Span.io (Series B Startup) San Francisco, CA

- Designed and implemented python software to solve Nonlinear Differential Equations to speed up analytics by 75%
- Simulated home appliance power consumption using the Span Panel data to inform next product iteration
- Analyzed the value of electrification technologies with processing usage data of the Panel in Python and Snowflake to predict the best product sales with the goal to generate higher revenue for the company

**Undergraduate Researcher** **June 2021 – October 2021**
Computational Infrastructure for Geodynamics, NSF, UCSD, NASA/JPL CA

- Advisors: Prof. Dave Stegman (UCSD) and Dr. Sue Smrekar (NASA, JPL)
- Built and analyzed a model of Venus on supercomputers using Python and Fortran with Prof. Dave Stegman
- Found that plume-assisted tectonic subduction happens 80% faster than hypothesized while advised by Dr. Sue Smrekar
- Co-authored scientific paper in support of NASA's Venus VERITAS mission of NASA/JPL

## Projects

**SnapSite** | AI Hackathon 2023 by UC Berkeley Cal Hacks and Skydeck **June 2023**

- Led the development of SnapSite, revolutionary AI tool that allows users to create websites instantly from photos of text
- Won the Sponsor's prize from AnyScale Link to prototype

**TensorZipper Project Startup** | Connected Life Challenge Lab SCET Class **August 2023 - December 2023**

- Led the development of a novel AI model compression algorithm, leading to smaller, faster, and cheaper AI models.
- Won first place among eight class projects and third place among eleven projects at SCET's Annual Collider Cup XIII.

## Publications

**SPEED: Speculative Pipelined Execution for Efficient Decoding** by Coleman Hooper, Sehoon Kim, Hiva Mohammadzadeh, Hasan Genc, Kurt Keutzer, Amir Gholami, Sophia Shao. (NeurIPS Workshop and on archive)

**Plume-Induced Delamination Initiated at Rift Zones on Venus** by Andrea C. Adams, Dave R. Stegman, Hiva Mohammadzadeh, Suzanne E. Smrekar, and Paul J. Tackley. (Published in the Journal of Geophysical Research: Planets)

## Leadership / Extracurricular

**Private and on Campus Mathematics and Computer Science Tutor** (2014 - Present)
**Co-Chair, Professional Committee, Iranian Students of California (Non-Profit Org)** (2022 - Present)
**Board member, Signatory, Iranian Student Association in America (Graduate RSO)** (2022 - Present)
**Junior Youth Animator in Junior Youth Spiritual Empowerment Program** (2015 - Present)