

# Shafial Zaman

shafialzaman@berkeley.edu | [linkedin.com/in/shafialzaman](https://www.linkedin.com/in/shafialzaman) | [github.com/shafialzaman](https://github.com/shafialzaman)

## EDUCATION

**University of California, Berkeley** | B.A. Computer Science and B.S. Materials Science & Engineering Berkeley, CA | December 2024

- **Cumulative GPA:** 3.8/4.0
- **Affiliations:** SBC Strategy Consulting, Association for Computing Machinery, Institution of Electrical and Electronics Engineers, Computer Science Undergraduate Association, Undergraduate Research Apprentice Program, Materials Science and Engineering Association
- **Relevant Coursework:** Data Structures and Algorithms, Artificial Intelligence, Database Systems, Computer Security, Operating Systems, Machine Structures, Discrete Mathematics, Probability Theory, Interpretation of Computer Programs, Thermodynamics, Solid Mechanics

## WORK EXPERIENCE

**UC Berkeley College of Engineering | Machine Learning Research Intern** Berkeley, CA | September 2022 - Present

- Developed novel Message-Passing Neural Network architectures for semiconductor heterostructure property prediction with 97% accuracy.
- Optimized deep learning quantum chemistry algorithms for large-scale anisotropic crystalline and amorphous material simulation using Python.
- Implemented backpropagation and linear regression algorithms to train high-dimensional energy surfaces 20% faster using SchNet architecture.

**Socialtrait | Software Engineer Intern** San Francisco, CA | May 2023 - August 2023

- Designed context-based memory system and enhanced reinforcement learning framework integrating attention mechanisms using Python.
- Integrated third-party APIs in JavaScript such as payment gateways and email services, expanding company application functionalities.
- Researched and implemented generative agent strategies with transformer reinforcement learning and Deep-Q Networks, leveraging techniques such as cognitive mirroring and memory consolidation to increase product agent behavior and decision-making efficacy by 30%.

**Autodesk | Technical Project Manager (Contract)** San Francisco, CA | August 2023 - Present

- Partnered with Autodesk Research to target innovative collaborations across the AI, robotics, computer vision, and computer modeling sectors.
- Consulted directly with potential teams, mapping current market trends and future forecasts to pinpoint trailblazing engagements.
- Ensured timely submission of insight-driven presentations, emphasizing market revelations and strategic partner recommendations.

**Adobe | Project Manager (Contract)** San Francisco, CA | August 2023 - Present

- Oversaw strategic redesign of Adobe Creative Cloud's onboarding process, increasing educational outreach student conversions by 15%.
- Conducted customer experience focus groups, integrating feedback to design UI/UX enhancements for Adobe's student-centric platform.
- Utilized machine learning techniques in Python, such as clustering and decision trees, for refined user segmentation via website analytics data.

**Socialtrait | Technical Program Manager Intern** San Francisco, CA | January 2023 - May 2023

- Improved multi-agent reinforcement learning framework for social media platforms using Python GAN models, reducing query times by 15%.
- Managed portfolio of 10 AI, systems design, and data analysis projects, guiding each engagement from conceptualization to launch.
- Reviewed periodic progress reports, adjusted task priorities, and planned milestone deliverables ensuring alignment with SDLC.

**Microsoft | Strategy Consultant (Contract)** San Francisco, CA | January 2023 - May 2023

- Forecasted development positioning for Microsoft Loop relative to various competitors using market research to drive product growth.
- Devised social media marketing strategy in order to enhance brand visibility and increase customer acquisition channel traffic by 25%.

**NASA | Project Manager, Micro-g NExT Competition (Finals)** Los Angeles, CA | September 2021 - July 2022

- Led college team for NASA Artemis program competition, using Inventor to design, build, and test prototypes of a lunar calibration marker.
- Directed design and educational outreach programs in writing final proposal and prototyping device, sourcing materials from McMaster Carr.
- Advanced to the final testing phase in NASA's Neutral Buoyancy Lab, engaging directly with NASA astronauts and faculty.

**Senga Engineering | Mechanical Engineering Intern** Santa Ana, CA | August 2021 - Dec. 2021

- Enhanced material selection of components to machine manufacture semiconductors and components for NASA, Boeing, and Blue Origin.
- Engineered 3-D design configurations using SolidWorks to coordinate over 45 computer numerical control machines.
- Integrated PC-DMIS metrology software to run Hexagon coordinate measurement machines, increasing quarterly production success to 98%.

## PROJECTS

**The World is Yours | Java**

- Designed and implemented 2D world generator using pseudo-randomness to generate distinct rooms, hallways, walls, sprites, and floors.
- Created user interface with menu screen and heads-up display to provide information on tiles and objectives.
- Developed deterministic interactive system allowing users to control on-screen avatar to interact with the world, with the ability to save and load game progress using text files.

**Multi-Agent Pacman | Python**

- Incorporated Pacman Minimax, Alpha-Beta Pruning, and Expectimax search algorithms in Python to perform against probabilistic agents.
- Engineered dynamic state evaluation function using heuristic analysis and reduced algorithmic runtime in high-complexity scenarios.

**Kachow | C, Python**

- Implemented and optimized 2D convolutions in C, leveraging Single Instruction Multiple Data operations and OpenMP for parallel processing.
- Created Open MPI coordinator for improved workload management, used Python, valgrind, and cgdb to debug and generate custom test cases.

## SKILLS AND ACTIVITIES

**Programming Languages:** Python · Java · C++ · SQL · C · MATLAB · JavaScript · Swift · R · Pandas · PC-DMIS · HTML/CSS

**Tools, Skills, and Frameworks:** PyTorch · TensorFlow · Git · Node.js · React.js · Redux · SchNet · SolidWorks · AutoCad · Inventor · Confluence

**Interests:** Basketball · Cooking · Gaming · Music · Cars · Podcasts · Biking · Hiking