Ali Khani

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LinkedIn — GitHub

EDUCATION

University of California, Berkeley Berkeley, CA

Bachelor's in Computer Science, Bachelor's in Data Science May 2025

- **Coursework:** Data Structures, Algorithms, Computer Architecture & Assembly, Data Science, Probability, Databases, Computer Security, Machine Learning, AI, Computer Networking*.

SKILLS

- **Languages:** Java, Python, JavaScript, Golang, C, SQL, C++, HTML/CSS, Ruby, RISC-V
- **Libraries:** React, Bootstrap, Scikit-learn, NumPy, Pandas, Matplotlib, Plotly, TensorFlow
- **DevOps:** Git, GitHub, Node, Vim, IntelliJ, VSCode, Shell, Linux, Kubernetes, Asana, Jira
- **Amazon Web Services (AWS):** VPC, EC2, IAM, Cloud Formation, S3, Security Groups

EXPERIENCE

AWS Certified Solutions Architect - Associate SAA-C03

Amazon Web Services Scheduled Apr 14, 2024

Teaching Assistant, Data Structures (CS61B) Berkeley, CA

University of California, Berkeley EECS Aug 2022 - Aug 2023

- Taught discussion & lab sections of 40+ students each in Berkeley's largest class (1800+ students).
- Created project presentations, API guides, & Git guide as resources for student projects and HWs.
- Designed & debugged large-scale projects and resolved issues pertaining to Git workflow, IntelliJ setup & configurations, Gradescope autograder tests, and algorithm implementations.

PROJECTS

Gitlet — Java *Jun 2023 - Jul 2023*

- Created version-control system emulating Git with commit, merge, and branching functionalities.
- Designed efficient snapshot storage & history tracking, incorporating SHA-1 hashes for content ID.
- Developed a serialized persistence model for state retention, emphasizing CLI argument validation.

Dropbox — Go *Feb 2024 - Apr 2024*

- Designed a secure file-sharing system in Go emulating Dropbox, incorporating cryptographic functions for user authentication and secure operations.
- Produced a comprehensive peer-reviewed design document, outlining architectural and security measures, with rigorous testing and development cycles for robust system implementation.

Spam & Ham — Python *Mar - Apr 2022*

- Developed a logistic regression model to classify emails, achieving 93% accuracy with sklearn.
- Engineered text-based features and emphasized precision-recall optimization in data cleaning.
- Analyzed classifier performance, refining the model to enhance practical email filtering applications.

Pac-Man AI — Python *Jan 2024 - May 2024*

- Engineered advanced AI strategies for Pac-Man, utilizing algorithms for search, probabilistic inference, and reinforcement learning.
- Implemented adversarial search contexts with multiagent algorithms, applying machine learning models for task optimization.
- Optimized heuristic evaluation functions & reinforcement learning algorithms for agent strategies.

RookieDB — Java *Jan 2024 - May 2024*

- Led development of database with core functionalities like B+ tree indexing & query optimization.
- Implemented concurrency control and recovery system following ARIES protocol for data integrity.
- Extended capabilities with NoSQL interface, showcasing adaptability and technical leadership in database design.