

Irtiza Khan

Email: irtiza@stanford.edu

Phone: +1 747 260 9089

Personal Website: irtiza.me

US Citizen

Education

Stanford University

Computer Science, Postgraduate Studies (NDO)

Stanford, CA

Jan 2024 – Aug 2024

California State University, East Bay

Computer Science, B.S. (Cum Laude)

Hayward, CA

Apr 2021 – Dec 2022

Work

Code In Place (Stanford University)

Teaching Assistant

Palo Alto, CA

Apr 2024 – Present

- *Technologies:* Python

- Facilitated in teaching an adapted version of Stanford's CS106A class for students across the world.
- Led weekly sections with students to cover foundational computer science concepts in Python through design discussions, pair programming, code reviews, and continuous feedback.

Citi Bank

Bank Associate

Palo Alto, CA

Apr 2023 – Jan 2024

- *Technologies:* NBS (CRUD Transaction System), Eclipse (KYC System), Salesforce

- Collaborated with team to manage operations for branch with over \$392 million in assets.
- Facilitated cross-market transactions exceeding \$1 million with in-house technologies and documentation.
- Communicated with cross-functional teams to resolve technical issues regarding financial transactions.

Formation Professional Fellowship

Software Engineering Fellow

Remote

Jun 2022 – Present

- *Technologies:* JavaScript, ReactJS, NodeJS, Python, Git

- Worked under big-tech software engineers to design large-scale systems, efficient algorithms, and robust software.
- Shipped 5-8 production-ready features and bug fixes for user access control to a large code base.
- Reduced 15% of redundant functions by refactoring the code base with proper ReactJS state management.
- Improved cost-efficiency by up to 40% by rate-limiting RESTful API calls and compressing data streams using GZIP.

NASA + CalTech Jet Propulsion Laboratory

NCAS Scholar

Pasadena, CA

Nov 2019 – Jan 2020

- *Technologies:* Python, MicroPython

- Modelled a 3D Mars rover for a research paper, leading to an on-site program of 40 scholars out of 2000 applicants.
- Competed among 5 teams to build a mock Mars rover to roam unsurveyed terrain and collect rock samples at Caltech's JPL (Jet Propulsion Laboratory).
- Took ownership over the mock Mars rover's entire code base, including features such as dead-reckoning navigation.
- Prevented total project failure by implementing emergency maneuver protocols that were successfully triggered.
- Awarded 'Most Valuable Person' award for impactful contribution to the team's success.

Projects

Stanford Intercollegiate AR/VR (ICXR) Hackathon: Assistive Technology

Software Engineer

Stanford, CA

Nov 2023

- *Technologies:* Swift, VisionKit

- Competed in the 3rd largest AR/VR Hackathon in the world.
- Collaborated with a UX designer to transform user flows into a functional iOS app to aid visually impaired individuals in navigating their surroundings.
- Implemented on-device object recognition using the YoloV3 model to identify 80 real-world items.
- Improved computer vision using a saliency map to filter and separate objects in the foreground from the background.

OpenAI Sponsored (Cerebral Valley) Hackathon: Emotionally Intelligent LLM

Software Engineer

San Francisco, CA

Apr 2023

- *Technologies:* JavaScript, NodeJS, ExpressJS, Python, Flask, YAML, Bash, Git

- Integrated emotional intelligence into ChatGPT by tailoring the model's responses with contextual data extracted from modalities like facial expressions.
- Locally analyzed facial expressions from a real-time stream using the MobileNet-SSD model (15m parameters).
- Reduced development time and 50% of calls to OpenAI by setting up automation tools and an intermediary server.
- Placed as finalists in 5th place out of 60 teams and 400 contestants.

Capstone Project: Enterprise Chat Application

Undergraduate Student

Hayward, CA

Feb 2022 – May 2022

- *Technologies:* Java, JUnit, JSwing, Sockets, Threads, Serialization, Git

- Created requirement documents, design documents, and sprint timelines by collaborating with the team and client.
- Built and exposed core functionalities for socket networking and chat UI to integrate with external systems.
- Streamlined development and reduced 30% of code by abstracting code into easy-to-use libraries for the entire team.
- Performed continuous unit/integration/system tests using an automated test suite for the project life cycle.

Skills

- **Backend & Data:** Python, Flask, SQL, Tensorflow, Linux, Bash, AWS
- **Frontend & Mobile:** JavaScript/HTML/CSS, ReactJS, Swift
- **Systems & Performance:** C++, C, GDB, Valgrind
- **Others:** Git, Github