Irtiza Khan

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US Citizen

Education

Stanford University — *Stanford, CA*
Computer Science, Postgraduate — *Jan 2024 – Present*

California State University, East Bay — *Hayward, CA*
Computer Science, B.S. (Cum Laude) — *Apr 2021 – Dec 2022*

Work

Citi Bank — *Palo Alto, CA*
Bank Associate — *Apr 2023 – Present*
- *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.
- Effectively communicated with cross-functional teams, including customer service, compliance, and management, to resolve technical issues regarding clients' financial transactions.

Formation Professional Fellowship — *Remote*
Software Engineering Fellow — *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 — *Pasadena, CA*
NCAS Scholar — *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 — *Stanford, CA*
Software Engineer — *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 — *San Francisco, CA*
Software Engineer — *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 — *Hayward, CA*
Undergraduate Student — *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.

Visual Music Genre Classifier — *Hayward, CA*
Undergraduate Student — *Feb 2022 – May 2022*
- *Technologies: Python, Tensorflow, Keras, Git*
- Implemented ETL processes to visualize 20,000+ scraped songs as 3D spectrograms to train over a CNN model.
- Outperformed reference model by +3% accuracy, serving as a showcase for future deep learning classes.

Skills

- Programming Languages: C++, C, Go, JavaScript, HTML, CSS, Java, Python, SQL, Bash
- Frameworks & Tools: ReactJS, Flask, Hugo, Keras, Tensorflow, JUnit, Git, Linux, AWS