AKHIL DESHPANDE

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EDUCATION

University of Texas at Austin   Austin, TX
Bachelor of Science in Computational Physics, Certification in Computing   *08/2021 - 05/2024*

EXPERIENCE

Software Engineer Intern   05/2023 - 09/2023
Visa Inc.   *Austin, TX*
- Independently created and managed a Flask application that reduced a manual process runtime by 90%
- Used paramiko and oracleDB to automate SSH connection, Kafka messaging, and database validation
- Implemented JSON validation within a fast and reliable UI element to highlight sources of error
- Used the atexit and logging libraries to accurately and efficiently generate log files with results of each sent payload
- Wrote independent documentation and test code, as well as Wiki pages to integrate project with current team

Undergraduate Teaching Assistant   09/2022 - Present
University of Texas at Austin   *Austin, TX*
- Influenced the development and delivery of 100+ course materials, including lectures, assignments, and exams
- Led weekly discussion sections and lab sessions, providing individualized support to 30+ students per session
- Graded 60+ assignments per week, exams, and projects, providing timely and detailed feedback to students
- Collaborated with a professor and 15 other teaching assistants to identify and address areas of difficulty for dozens of students, and reinforced strategies to improve overall learning experience

Software Engineer Intern   05/2022 - 08/2022
Dexcent Inc.   *Edmonton, Alb.*
- Implemented over 93% test coverage for a Django REST server, ensuring the quality and reliability of the codebase
- Incorporated Postman to automatically send over 30 calls per day and receive data, testing the functionality of the server and debugging any issues
- Synchronized 10+ test cases per day with an independent codebase inside a git branch while automating test runs
- Structured code in a team environment, collaborating with two senior developers to achieve test database coverage

PROJECTS

Fixify | *Python, Flask, CSS/HTML, JS, MySQL*   03/2023 - 05/2023
- Created a Flask application to combat Spotify's removal of songs from its database
- Automatically searches user's playlists and identifies songs that are no longer available to play
- Searches YouTube without the need to make an API call, and downloads the song and its according metadata
- Uses a login database to cache data for a user, as well as a smart LRU caching system to reduce computational load

Physics Simulator | *Python*   08/2022 - 01/2023
- Developed a particle-based physics simulation in Python using pygame and tkinter
- Incorporated 10+ features including object collision, gravity, energy loss, and pressure to mimic real-world conditions
- Leveraged tkinter to create 5 custom widgets and layouts, improving the design and user experience of the program

Web Scraping and Audio Compilation Tool | *Python, Git*   05/2022 - 07/2022
- Created a Python script to visit a website, download 700+ specific files, and compile those files into an audiobook
- Included functionality to attach a JPEG cover file to the front cover of each mp3, increasing usability and diversity of files
- Integrated python libraries, including urllib3, glob, eyeD3, and pydub to improve the user interface of the program

White Noise Remover | *Python, Git*   10/2021 - 12/2021
- Collaborated and led a team of five students to deliver an application within the span of a one day hackathon
- Developed the backend for an application that speeds up quiet portions of an HTML5 video using Python, ffmpeg, and Audio RMS Integrals
- Optimized script runtime by 60% by benchmarking and hashing certain datasets, cutting computation time in half

Chess Notation Application | *Swift*   05/2021 - 07/2021
- Wrote frontend and backend code for an application that used a camera to support and scan chess notation sheets
- Analyzed images using python and artificial intelligence to process and read files to detect writing in pictures
- Implemented SwiftUI Basics to create a working graphical representation of the application

TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript/TypeScript, HTML/CSS, LaTeX
Frameworks: React, VueJS, Flask, Django REST
Developer Tools: Git, Docker, Firebase
Libraries: ffmpeg, numpy, matplotlib, pandas, tensorflow, keras, requests, urllib3, pytest, pydub, Flask, paramiko
Hobbies: Racquetball, High Altitude Mountaineering, Road Cycling, Aerial Cinematography, Video Editing, Bouldering