Danish Tamboli

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EDUCATION

UNIVERSITY OF FLORIDA   Gainesville, FL
Master of Science in Computer Science and Engineering   **May 2024**
Cumulative GPA: 3.94/4
Relevant Coursework: Algorithms, Advanced Data Structures, Natural Language Processing, Distributed Operating Systems, Computer and Network Security, Natural User Interaction, User Experience Design, Computer Networks.

UNIVERSITY OF PUNE   Pune, India
Bachelor of Engineering in Computer Engineering   **August 2018 - July 2022**
Cumulative GPA: 8.74/10
Relevant Coursework: Object Oriented Programming, Databases, Project Development and Management, Cloud Computing.

EXPERIENCE

DIMENSIONAL FUND ADVISORS - Angular, Django, Typescript, D3.js, Python   Austin, TX
Software Development Intern   **June 2023 – August 2023**
- Strengthened the internal project management tool by incorporating core attributes like cyber and operational impact, tiers, and a derived score for new and existing projects. Created Scoring guides for the same (Range 1-5).
- Developed a Project-Portfolio page in Forecasting, Alignment & Strategy Tool (FAST), displaying projects with core attributes, and engineered visualizations to improve project visibility and selection for a given quarter.
- Worked on automating the Batch Creation and Updation of Projects by providing Project Managers with Excel Templates, that can be uploaded on FAST, ensured Data Validation on both Excel and Django back-end.

MACNMAN - C++, Java, MQTT, SQL, AWS, HTML, CSS, JS, Arduino, LoRa, Git   Pune, India
Software Development Intern   **March 2021 – May 2022**
- Implemented a program in C++ that allowed clients to connect up to 100 devices to one LoRaWAN Gateway using LoRa, MQTT, and Modbus standards for data monitoring, logging, and industrial automation.
- Integrated unique identifiers and hot-swap ability for the range of sensors offered, eliminating the need for manual inputs and reboots. Shaving off 2 minutes from the sensor setup process.
- Created test cases and a 5-stage diagnostic check that acted as fail-safe measures, preventing the Gateway from boot loop.

TECHNICAL SKILLS

Programming Languages: Python, Java, R, HTML/CSS, C++, MATLAB, Typescript
Databases: SQL, AWS, dplyr
Tools: Git, Postman, Pandas, Tensorflow, OpenCV, RStudio, Arduino IDE, Figma, RxJS

CERTIFICATIONS & TRAINING

- Data Science Specialization, Google Project Management (ongoing), Certified Associate in Project Management (ongoing)

PROJECTS

POSE ESTIMATION BASED FITNESS TRAINER - Python, OpenCV, Mediapipe   **January 2023 – May 2023**
- Spearheaded development of a gamified virtual fitness trainer with voice commands, gesture recognition, and posture correction, resulting in a 66% increase in user motivation.
- Iteratively designed the system through user requirements gathering, UI iterations, speech recognition, pose estimation integration, and user evaluations, fostering a natural interaction experience for 77% of participants.
- Identified benefits of voice commands and gamification while addressing areas for improvement, such as system responsiveness and recognition accuracy, resulting in refinements in the second prototype.

AUDIO DEEPFAKE DETECTION USING BREATH - Python/Tensorflow   **October 2022 – December 2022**
- Engineered a breath detection algorithm that utilizes Mel spectrograms and phonetics, resulting in classification of deepfake audio, with an F1-score of 0.89. Achieved an accuracy of 95% for breaths detected, with only 1 in 20 events mislabeled.
- Constructed a 40 hr dataset of authentic and deepfake audio by scraping solo speaker audio from podcasts and news articles.
- Developed and deployed a script to efficiently aggregate breath annotations within 100ms, identify outliers, and address discrepancies. Equipped annotators with tools to streamline the annotation process and ensure a thorough review.

TIRE DATA ANALYSIS & TIRE MODELING - MATLAB, Simulink, IPG   **November 2019 – February 2021**
- Analyzed and performed EDA on Calspan & Milliken's data to enable a better understanding of tire behavior such as wear, temperature delta, and other KPIs. Simplified the design process and enabled users to undergo an additional 2 to 3 revisions.
- Introduced the team to Pacejka's magic formula '94 specification and applied MATLAB to produce empirical representations and interpolations of pre-measured tire force and moment curves, reducing development cycle time by 15%.