Shreyas Popullu Jagadeesha Reddy

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EDUCATION

M.S. Computer Science   Expected May 2025
Arizona State University, Tempe, AZ
Relevant Coursework: Foundations of Algorithms, Planning/Learning methods in AI
B.S. Information Technology   July 2023
International Institute of Information Technology, Bhubaneswar, India
Relevant Coursework: Data Structures and Algorithms, Operating Systems, Databases, Object oriented design   8.87/10 GPA

TECHNICAL SKILLS

Programming Languages and Front-End: Python, C, C++, Java, Javascript, HTML, CSS, React.JS, Tkinter GUI
Frameworks, Databases and OS: TensorFlow, Keras, Pytorch, MediaPipe, NLTK, gTTS, MySQL, Git, GitHub, Windows Cmd

PROFESSIONAL EXPERIENCE

University of New Brunswick, Fredericton, CA : MITACS Globalink Research Intern   05/2022 - 08/2022
- Created a **Python** application to seamlessly capture and synchronize human mobility data from multiple sources, including 2 wearable devices, 9 IP cameras, and 8 pressure-sensitive flooring tiles, facilitating in-depth analysis
- Executed a comprehensive gait data collection plan, leveraging the application to gather insights from 50+ human subjects
- Attained a 50% reduction in time spent on manual data recording and data synchronization

NYU Tandon School of Engineering, NY: Research Intern   06/2021 - 02/2022
- Evaluated the performance of 5 Deep learning architectures namely RNN+LSTM, Dilated LSTM, CNNs and others using **Tensorflow** and **Keras** on NinaPro database for robotic hand prosthesis
- Spearheaded the creation of the Dilated Efficient Capsule Network, a novel deep learning architecture that outperformed the existing models by 10% and accomplished accuracy of 80% on 17 gestures with only 20% of original training signal data
- Published a paper titled "Transfer Learning of Dilated Efficient CapsNet: Towards Generalization for Neuro-robotics" in the IEEE RAL journal, accepted for presentation at IROS conference in Kyoto, Japan (October 2022) (link)

RELEVANT PROJECTS

img2speech python package, *Personal Project* (link)   01/2023 - 05/2023
- Launched an open-source **Python** package, enabling one-line conversion of textual images and PDF files to human audio files revolutionizing accessibility by providing audio content for visually impaired individuals
- Enhanced multilingual support for 4 Indian languages, including English, leveraging the EasyOCR engine and **gTTS**
- Reduced the word error rates by an average of 5% by leveraging the built-in image preprocessing module and authored the package used by over 170 application developers and students in their academic and research projects

Reliable AI Proctoring Software, *Personal Project* (link)   03/2022 - 05/2022
- Developed a remote proctoring software using **MediaPipe** and Pillow for video processing, PyAudio for audio processing and **NLTK** for text analysis to mitigate spoofing attempts and ensure secure online exams
- Examined 6 metrics, mainly head-pose estimation and estimated cheating probability and generated plots for each metric
- Orchestrated a project presentation that garnered 1000+ views on YouTube, showcasing the project's utility

Emotion based music recommendation system, *Personal Project* (link)   02/2022 - 03/2022
- Engineered a recommendation algorithm using **Python** that utilized user mood data to curate customized music playlists
- Extracted music features from 160K songs on the Spotify API data and performed data clustering to identify user preferences
- Achieved 50+ stars, 30 forks and 3000+ views on GitHub for the novel recommendation system using **Tkinter** GUI

Nina Funcs python package, *Research Project* (link)   05/2021 - 08/2021
- Devised a **Python** library for preprocessing and training of the EMG signals from the NinaPro database
- Implemented signal processing functions like filtering, windowing, rectification and PCA in 1 line of code and produced the package on PyPI and has over 70 downloads from researchers working in upper limb prosthesis

EXTRACURRICULAR EXPERIENCE

Udemy, Remote: Instructor, Data Structures and Algorithms in C++ (link)   01/2023 - 07/2023
- Pioneered a highly-rated Udemy course on **Data Structures** and **Algorithms** in **C++**, boasting a 5-star rating and enrollment of 200+ students worldwide

Kaggle, Data Science Company, Remote: Kaggle Master Tier (link)   05/2021 - 05/2022
- Distinguished on Kaggle as a Master-tier contributor, ranking in the top 0.11%, demonstrated leadership by publishing over 800 forks of innovative work