Suryaveer Singh

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Objective

AI-passionate recent grad with ML and robotics expertise, seeking a role to drive innovation in the field. I bring a strong foundation in software development, hands-on experience with ML projects and analytical and data driven mindset, eager to contribute to the next generation of AI solutions.

Education

University at Buffalo, The State University of New York
Masters of Science in Engineering Science Focus in AI and Robotics

SRM Institute of Science and Technology
Bachelor of Technology in Computer Science and Engineering

Technical Skills

Programming Languages: Java(Spring Boot), Python, C/C++, SQL (Postgres)
Frameworks: PyTorch, TensorFlow, Scikit-learn, Apache Spark, Tensorboard, pandas
Developer Tools: Git, Bitbucket, Jenkins, Docker, Azure Services, VS Code

Projects

Audio Classification of Environmental Sounds | *Python, Pytorch, Deep Learning*

- Conducted extensive research to enhance classification accuracy through innovative preprocessing strategies on audio data for audio classification tasks, achieving 97.6% accuracy
- Evaluated **Mel-spectrograms** and **MFCC** audio processing methods and completed comparative study
- Extensively tested on environmental sounds datasets(ESC-50, UrbanSounds8K)

Contactless Fingerprint Verification | *Python, Flask, MongoDB, OpenCV, React, Expo*

- Developed and deployed a cross-platform mobile application for contactless fingerprint enrollment and verification. Utilized **Expo**, **Axios** and **React Native** for frontend, and **Python** with **Flask** and **OpenCV** for backend
- Implemented capture for enrollment and verification for fingerprints with high accuracy(>95%)
- Utilized **Vision Transformer** model to accomplish fingerprint matching by generating ridges of fingerprints

Image Classifier | *Python, Pytorch, Deep Learning, Transfer learning, OpenCV*

- Developed a custom **CNN** based **image classifier**, showcasing a nuanced understanding of model training process
- Fine-tuned **hyperparameters** to achieve outstanding results on the DTD dataset, including an accuracy of 70%
- Implemented advanced **data augmentation** and effectively monitored the training process using **TensorBoard**

Professional Experience

Software Engineer July 2016 – June 2022
Unisys

- Led a team in delivering an Identity and Access Management (IAM) front-end with **microservices** architecture
- Engineered a secure Remote Working Kit on **Azure Cloud Services**, for robust authentication and streamlined software distribution, enhancing remote work safety
- Collaborated with cross-functional teams to design and implement high performing, scalable **RESTful APIs**
- Engineered 2 migration utilities for 300 million records, implementing event-driven architecture with **WebMQ**
- Developed an on-premises passenger facilitation solution for airports with iris detection, using Tascent iris scanner
- Designed and Implemented 5s SLA Retrieve identity workflow for IAM solution with event-driven architecture

Software Engineer Intern Jan. 2016 – June 2016
Unisys

- Created an Cross-platform application to read and display facial characteristics using **Google VisionAPI**