Auishik Pyne

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Experience

REVE Systems **Dhaka, Bangladesh**
Software Engineer Feb 2023–Present

- Developed a tri-layered biometric authentication system with speaker, facial, and fingerprint verification, achieving near-perfect accuracy with ROC/AUC analysis.
- Deployed speech-based gender and age model, achieving accuracies of 93% and 74% respectively.
- Doubled Bengali VITS TTS model inference speed for ONNX, enhancing cross-platform deployment efficiency.
- Developed Your TTS multi-speaker model for versatile voice synthesis via a single model.
- Implemented Nvidia TitaNet-L for Speaker Diarization, achieving over 80% accuracy in multi-party conversations.
- Enhanced FastSpeech 2 pipeline to 3x speed, integrating TorchServe, WebSocket, and Redis for batch processing.
- Conducted unsupervised noise clustering with K-means, t-SNE, and silhouette scoring for augmentation strategy development.

Junior Software Engineer Sep 2022 - Jan 2023

- Implemented pitch detection, volume normalization, and energy calculation in audio analysis.
- Utilized sileroVAD over WebRTC for 2x improved voice activity detection accuracy.
- Enhanced audio quality with DeepfilterNet and Meta models for noise reduction.
- Boosted audio processing speed 5x with Python multiprocessing; integrated Azure and Google Cloud STT/TTS.

Software Engineer Trainee Apr 2022 - Aug 2022

- Developed a Bengali Text Normalizer and trained a FastSpeech 2 TTS model, enhancing Bengali language processing, and gained expertise in Docker and Flask for API development.
- Conducted audio data analysis and signal processing with an emphasis on data visualization for actionable insights.

SELISE rockin' software **Dhaka, Bangladesh**
Software Development Engineer Intern May 2019 - June 2019

- Created an online quiz platform using HTML, CSS, JavaScript, Bootstrap, PHP, Ajax, and MySQL.
- Added timed tests, performance tracking; mastered GIT, SCRUM, SDLC for improved admin and student features.

Publication

- A. Pyne, S. Anower, *Performance Comparison of Multiple Supervised Machine Learning Algorithms for COVID-19 Mortality Prediction*, 2022 Second International Conference on Advances in Electrical, Computing, Communication and Sustainable Technologies (ICAECT), Bhilai, India, 2022.

Education

Rajshahi University of Engineering & Technology (RUET) **Rajshahi, Bangladesh**
Electrical & Computer Engineering 2016–2021

Coursework: Object-Oriented Programming, Data Structures & Algorithms, Database Systems, Computer Networks, Neural Networks & Fuzzy Systems

Activities: Cultural Club, Programming Mentor, Blood Donation

Skills

Expert: Python, FastAPI, Flask, Scikitlearn, Pytorch, Tensorboard, MongoDB, Linux, VSCode, Data Analysis/Visualization, Prompt Engineering

Proficient: HTML, CSS, JavaScript, SQL, Latex, Tensorflow, MLflow, Git/Terminal, Numpy, Pandas, Matplotlib, Seaborn, GCP, Lambda Labs

Novice: C, C++, Java, Docker, Power BI, Tableau, MATLAB, Redis, Torchserve, Websocket

Certifications

- Deep Learning Specialization by DeepLearning.AI, Coursera
- Machine Learning by Stanford University, Andrew Ng, Coursera
- Python for Everybody by the University of Michigan, Coursera