Piyush Vyas

LinkedIn | GitHub

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EXPERIENCE

Senior Machine Learning Scientist   Oct 2021 – Present
Spectrum Labs, Inc.   *Remote, US*

- Conducting **ML research** to improve our **Text and Voice Chat Moderation solutions**
- **Mentoring** a small team of **Junior/Senior Data Scientists, ML Engineers, and Interns**
- Pretrained and fine-tuned **LLMs** on proprietary data. Deployed them in **real-time on CPU** using **ONNX Runtime**, **Gradio**, and **FastAPI**
- **Built a multi-modal (Text + Audio) ML toolkit** based on PyTorch that serves both ML research and model iterations
- Responsible for building, deploying, and iterating on the MVP for **Voice Chat Moderation**

Research Intern (NLP)   Aug 2021 – Oct 2021
Comcast Applied AI   *Remote, US*

- Worked on the **Automatic Speech Recognition** engine powering Comcast's X1 entertainment system and reduced the **WER** by a relative **30%** by incorporating the wav2vec 2.0 model

Research Assistant   May 2020 – Oct 2021
Indiana University Bloomington   *Remote, US*

- Conducted data crowd-sourcing using **Amazon MTurk** and ran experiments on **Speech Assessment** using **PyTorch**

PUBLICATIONS

- R. Tang, K. Kumar, J.Xin, **P. Vyas**, *et al.*,"Temporal Early Exiting for Streaming Speech Commands Recognition," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2022, pp. 7567-7571

- **P. Vyas**, A. Kuznetsova, and D. Williamson, "Optimally Encoding Inductive Biases into the Transformer Improves End-to-End Speech Translation," in Proc. INTERSPEECH, 2021, pp. 2287-2291 **(Best Student Paper Award)**

- Z. Zhang, **P. Vyas**, X. Dong and D. S. Williamson, "An End-To-End Non-Intrusive Model for Subjective and Objective Real-World Speech Assessment Using a Multi-Task Framework," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021, pp. 316-320 **(Outstanding Student Paper Award)**

EDUCATION

Master of Science in Intelligent Systems Engineering   2020
Indiana University   *Bloomington, IN*

Bachelor of Commerce & Post-Graduate Diploma in Computer Application   2018
Devi Ahilya Vishwavidyalaya   *Indore, INDIA*

TECHNICAL SKILLS

ML Packages	PyTorch, ONNX, Hydra, TensorRT, HuggingFace, WandB, TorchVision, JAX, TensorFlow
Data Analysis	Pandas, scikit-learn, Plotly
Text	SentencePiece, TorchText
Audio	TorchAudio, Librosa, SoundFile
Software	Gradio, FastAPI, git, Docker
Cloud	AWS, GCP, Amazon Mechanical Turk
Languages	Python, SQL