

Piyush Vyas

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EXPERIENCE

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|---|---------------------|
| Senior Machine Learning Scientist <i>Spectrum Labs, Inc.</i> | Oct 2021 – Present |
| | Remote, US |
| <ul style="list-style-type: none">Conducting ML research to improve our Text and Voice Chat Moderation solutionsMentoring a small team of Junior/Senior Data Scientists, ML Engineers, and InternsPretrained and fine-tuned LLMs on proprietary data. Deployed them in real-time on CPU using ONNX Runtime, Gradio, and FastAPIBuilt a multi-modal (Text + Audio) ML toolkit based on PyTorch that serves both ML research and model iterationsResponsible for building, deploying, and iterating on the MVP for Voice Chat Moderation | |
| Research Intern (NLP) <i>Comcast Applied AI</i> | Aug 2021 – Oct 2021 |
| | Remote, US |
| <ul style="list-style-type: none">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 <i>Indiana University Bloomington</i> | May 2020 – Oct 2021 |
| | Remote, US |
| <ul style="list-style-type: none">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

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| Master of Science in Intelligent Systems Engineering <i>Indiana University</i> | 2020 |
| | Bloomington, IN |
| Bachelor of Commerce & Post-Graduate Diploma in Computer Application <i>Devi Ahilya Vishwavidyalaya</i> | 2018 |
| | Indore, INDIA |

TECHNICAL SKILLS

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| 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 |
| Cloud | AWS, GCP, Amazon Mechanical Turk |
| Languages | Python, SQL |