

Pavan Seshadri

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PROFESSIONAL EXPERIENCE

Music.ai

Machine Learning Research Intern

May 2024 - present

Salt Lake City, UT (Remote)

- Hosted by Dr. Filip Korzeniowski and Dr. Richard Vogl
- Working on scaling audio-based ML models with unlabelled data using **self/semi-supervised training**

Amazon

Software Development Engineer I - Machine Learning

Aug 2021 - May 2022

Seattle, WA

- ML Engineer in **Catalog Product Knowledge** supporting text classification tasks using **LLMs**
- Used AWS to design and develop pipelines automating LLM finetuning, evaluation, and deployment for Amazon.com
- Drove training and deployment of models for regional markets, increasing performance by 3-5% for existing markets and extending coverage by 10% in emerging markets

Amazon

Software Development Engineer Intern

May 2020 - Aug 2020

Seattle, WA (Remote)

- Used AWS and Spark to build a large-scale LLM evaluation pipeline to reduce manual engineering hours by 95%

ACADEMIC EXPERIENCE

Technische Universität Wien

Machine Learning Researcher

May 2023 - Sept 2023

Vienna, AT (Remote)

- Under Dr. Peter Knees, researched and implemented a **transformer based** (causal + BERT-like) system for **next-item music recommendation** with Spotify and Last.fm datasets
- Integrated a novel contrastive loss to model sequential/temporal user feedback, increasing top-K hit rate by 3-9%

Georgia Institute of Technology

Graduate Research Assistant

Aug 2022 - May 2024

Atlanta, GA

- Conducted research using deep learning for projects in **soundscape detection** and **audio fingerprinting**
- Curated an open-source audio/video dataset of pedestrian activity (available on **HuggingFace**)
- Built efficient end-to-end ML workflows for **audio content understanding** using large datasets (> 2TB), decreasing training time by 10x with pre-processing for efficient I/O

SELECTED PUBLICATIONS

Feedback-Informed Contrastive Learning for Sequential Music Recommendation

Oct 2024

P. Seshadri, S. Shashaani, P. Knees, *RECSYS 2024*

Bari, IT

ASPED: An Audio Dataset for Detecting Pedestrians

Apr 2024

P. Seshadri, C.Han, B.W. Koo, N. Posner, S. Guhathakurta, A. Lerch, *ICASSP 2024*

Seoul, SK

Improving Music Performance Assessment with Contrastive Learning

Nov 2021

P. Seshadri, A. Lerch, *ISMIR 2021*

Online

EDUCATION

Georgia Institute of Technology

M.S Music Technology

Atlanta, GA

Jun 2024

- Advisor:** Dr. Alexander Lerch

Georgia Institute of Technology

B.S. in Computer Science

Atlanta, GA

Aug 2021

SKILLS

Languages: Python, SQL, Java, C/C++, MATLAB

Cloud Libraries and Development Tools: Amazon Web Services, Google Cloud Platform, Git, Docker, Linux

Machine Learning & Data Science: PyTorch, torchaudio/torchvision, Lightning, Pandas, Numpy, Matplotlib, Spark

Work Authorization: US Citizen, UK Citizen (Dual National)