Viswanathan V

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EDUCATION

- **Bachelor of Technology in Computer Science and Engineering(Artificial Intelligence)** *2021-Ongoing*
  Amrita Vishwa Vidyapeetham, Chennai Campus.

PROJECTS

Music Generation   *Sep - 2024*

- Created a novel Retention based Transformer model to generate music given a text prompt.
- Achieved a Fréchet Audio Distance (FAD) scores of **33.47 - 30.83** using various model variations.
- Generated 10 second clips of high quality audio in a sample rate of 16kHz.
- Gained a deep understanding of how modern State-of-the-Art models work for Text to Audio.

Image Diffusion   *Jan - 2024*

- Implemented a Diffusion-based image generation model based on the 2020 paper.
- Generated 32x32 images of various Landscapes and biomes using a multi step model.
- Reached a testing inception score of **9.25** and a Mean Squared Error of **0.003**.

Emotion Classification   *Jun 2023 - Sep 2023*

- Introduced a Graph Neural Network based Deep learning model using the PyTorch framework to classify Emotions based on 4 different parameters from EEG signals data from the DEAP dataset.
- Achieved a testing **accuracy of 95.3%** for single channel and **92.4%** for multi-channel.
- Represented a team 5 for the project duration in research, proposal, and design of a novel deep learning model.

Text Classification of Electronic Health Records   *Nov 2022 - Feb 2023*

- Proposed a BERT-based Hybrid Deep Learning model to classify **20,000+ EHR records** in the MIMIC III dataset according to 15 different classes.
- Experimented and Analyzed with 5+ BERT model variants each synergized with 3+ classification models.
- Achieved an **accuracy of 97.72%** by hybridizing the transformer neural network with an XGBoost classifier.
- Presented and published an academic publication in 2023 (DOI: 10.1109/ICCCNT56998.2023.10306707).

TECHNICAL SKILLS AND INTERESTS

Languages: Python, Java, Javascript, HTML+CSS.
Libraries : TensorFlow, PyTorch, Scikit-Learn, Numpy, Pandas, Discord, OpenCV.
Dev Tools: VScode, Visual Studio, Git, Github.
Cloud/Databases:Relational Database(MySQL).
Relevant Coursework: Data Structures & Algorithms, Operating Systems, Object Oriented Programming, Database Management System, Software Engineering, Reinforcement Learning, Deep Learning.
Areas of Interest: Deep Learning, Generative AI, Reinforcement Learning.
Soft Skills:Inquisitive, Self-learning, Presentation, Agile Mindset.

POSITIONS OF RESPONSIBILITY

Coordinator/Mentor Cognizance Club, Amrita Vishwa Vidyapeetham   *Oct 2022 - Ongoing*

- Mentored over **100+ students** in technical domains.
- Guided **60+ students** in various fields of AI including NLP and Computer Vision.

Guide Workshop on Explainable AI.   *Feb 2023*

- Conducted a 1-hour hands-on workshop on Explainable AI methods and how to examine 6+ AI models and algorithms.
- Coached **40+ Students** on how to create robust AI solutions and about the inner workings of AI.