



Aditya Ashok Barot

Roll No.: 20891

Master Of Technology

Signal Processing

Indian Institute Of Science, Bengaluru

+91-9408169713

✉ adityabarot006@gmail.com

✉ adityabarot006@hotmail.com

🐙 GitHub Profile

🌐 LinkedIn Profile

EDUCATION

•Indian Institute Of Science, Bengaluru

Aug'2022-Jul'24

MTech.(Signal Processing)

CGPA: 6.6/10

•Indian Institute Of Technology, Kharagpur

Jul'2019-Jun'21

MTech.(Power And Energy Systems)

CGPA: 7.71/10

•L.D. College Of Engineering

Aug'2015-Jul'19

B.E.(Electrical Engineering)

CGPA: 7.41/10

EXPERIENCE

•immunitoAI Pvt. Ltd.

Aug'2024 - Sept'2024

Research Software Engineer

- **Research and Development of the Geometric Graph Neural Networks:** Built the Diffusion Model with Graph Neural Networks by preserving the equivariance to generate the novel antibody sequence.

•Datanoveltech Pvt. Ltd.

Oct'2024 - Present

AI ML Engineer

- **Video Object Detection:** Fine Tuning and Modifying the YOLO model for performing the object Detection for the Company's Custom Video Dataset.

MTECH MAJOR PROJECT

•SPIRE LAB

Jul'23 to Jun'24

MTech. Student

IISc, Bengaluru

- **Evaluating the performance of Many-To-Many Voice Conversion Models:** Trained StarGANv2-VC on various datasets, including VCTK and synthetic VCTK compositions using XTTS-V2 model, experimenting with different proportions of synthetic and real data. Compared model performance with the baseline VCTK-trained model, providing insights into the impact of synthetic data on voice conversion accuracy.

PERSONAL PROJECTS

•Basic Machine Learning

Jun'23 to Jul'23

This section highlights different classical ML and DL Models, which are implemented by me from **scratch**.

- **Language & Libraries used: Python, NumPy**
- Performed the Multi-Class Classification on the Kannada-MNIST Dataset, by implementing Naive Bayes Classifier, Logistic Regressor, Gaussian Mixture Model with Expectation Maximization Algorithm, and Deep Neural Network Architecture with Back Propagation Algorithm optimized by SGD, SGD with Momentum, Adam optimizers from scratch.

•Generative AI

Aug'23-Nov'23

This part highlights the different Generative Models implemented by me from **scratch**.

- **Language & Libraries used: Python, PyTorch**
- Implemented some of the members of Variational Auto Encoder family like Vanilla VAE, Beta VAE, VQ-VAE on the Animals Faces Dataset from scratch, and obtained reconstructions and generations.
- Implemented DCGAN and CycleGAN members of GAN Family from scratch on the Animals Faces and HorseZebra Dataset respectively from scratch, and obtained new generations.

•Speech Processing

Aug'23-Nov'23

This part highlights the different Speech Processing tasks carried out by me using the Deep Learning Approach.

- **Language & Libraries used: Python, PyTorch**
- Performed the audio classification on the UrbanSounds8K dataset using CNN.
- Performed the gender classification using the speech dataset, using CNN, LSTM.

TECHNICAL SKILLS AND INTERESTS

Languages: Python, MATLAB
Coursework: Linear Algebra, Random Process, Pattern Recognition and Neural Networks, Optimization for Machine Learning and Data Sciences, Advanced Deep Representation Learning, Online Prediction and Learning
Areas of Interest: Statistical Machine Learning, Generative AI, Online Learning Speech Processing, Computer Vision.

POSITIONS OF RESPONSIBILITY

•**Teaching Assistant(TA)** in Pattern Recognition and Neural Networks Course *Jan'24 to Jun'24*

ACHIEVEMENTS

•**GATE(EE) 2019:** Rank-976, Percentile-99.13% *2019*
•**GATE(EE) 2022:** Rank-360, Percentile-99.48% *2022*