



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2024	M.TECH	IIT Kharagpur	7.81 / 10
2016	B.E	Maturi Venkata Subba Rao Engineering College	78.4%
2012	Intermediate	Board of Intermediate Education,A.P	95.7%
2010	S.S.C	Board of Secondary Education,A.P	88.83%

COURSEWORK INFORMATION

- Linear Algebra in Signals and Systems
- Machine Learning for Signal Processing
- Digital Image Processing
- Statistical Signal Processing
- Medical Image Analysis
- Probability and Random Processes for Signals and Systems
- Deep Learning Foundations and Applications
- Geometric Methods for Computer Vision
- Convex Optimization in Control and Signal Processing
- Bio Medical Signal Processing

PROJECTS

M.TECH Project: Classification of vehicular motion trajectories in a traffic video [Ongoing]

Guide : Dr.Nirmalya Ghosh ,EE Dept,IIT Kharagpur

Description:

- Vehicle segmentation, detection, tracking in traffic (color) video data.
- Estimation of vehicular motion trajectories : Polynomial regression fitting.
- Classification of motion patterns : Normal vs Abnormal.
- Sequential learning for anomalous trajectory detection of vehicles: LSTM, Transformers.

Coursework Projects**Unsupervised classification of Phonocardiogram(PCG)****[Autumn 2022]**

- Preprocessed the PCG signals using the Shannon Energy envelope extraction approach.
- Extracted time domain features and did K-Means Clustering to differentiate normal and abnormal PCG signals.

Adaptive probability filter for removing salt and pepper noises in an image**[Autumn 2022]**

- Initially, salt (255) and pepper (0) noises are detected in an image and stored in a matrix.
- Removed salt and pepper noises based on the noise-free intensity distribution and repetition in the neighborhood.

Wiener Filter Design and Convergence Analysis for Enhanced Signal Processing**[Spring 2023]**

- Designed Optimal FIR Wiener filter and Performed Convergence Analysis using Steepest Gradient Descent.

Lossy, Lossless data compression and Music classification**[Spring 2023]**

- Lossless compression on both text and image files using Huffman coding
- Lossy Compression of Olivetti Faces Dataset using PCA and SVD
- Music classification with 512-DCT as a feature vector using Bayesian classifier

SKILLS AND EXPERTISE

- **Programming Languages:** Python, C++, Basics of DSA.
- **Deep Learning Architectures:** DNN, CNN, RNN, GAN, Autoencoder, Transformers, YOLO v3.
- **Computer Vision techniques:** Classification, Object Detection, Object Tracking, Segmentation.
- **Software and Tools:** Matlab, VS Code, Jupyter, Google collab, Latex, MS Word, MS Excel, MS Powerpoint.
- **Machine Learning Frameworks:** Tensorflow, Pytorch, Keras.
- **Data Manipulation and Visualization:** Numpy, Matplotlib, Open CV, sci-kit-learn, Pillow.

CERTIFICATIONS

- AI for Breast Cancer Detection authorised by Johns Hopkins University and offered by Coursera.

POSITIONS OF RESPONSIBILITY

- **Teaching Assistant** for Digital Signal Processing Lab under the guidance of Dr. Debdeep Sheet.

AWARDS AND ACHIEVEMENTS

- Shortlisted for the EET (Electrical) position at **NTPC** based on my GATE 2022 score, which is **98.81** percentile.

WORK EXPERIENCES

- Worked as Panchayat Secretary Grade VI under Panchayat Raj and Rural Development for 21 months in A.P Govt.

EXTRA CURRICULAR ACTIVITIES

- Received **Best Seva Puraskar-2020** from Kadapa Association for Service Societies for service during COVID-19.
- **Hobbies:** Cooking, playing Badminton, Volley Ball, Cricket.