

BODHIREDDY GOVIND | 22EE65R25



SIGNAL PROCESSING AND MACHINE LEARNING

EDUCATION			
Year	Degree/Exam	Institute	CGPA/Marks
2024	M.TECH	IIT Kharagpur	7.40 / 10
2021	B.TECH	Acharya Nagarjuna University	8.31 / 10
2018	DIPLOMA	Government Polytechnic Visakhapatnam	90%
2015	Board of Secondary Education, AP	Sri Sarada Vidya Nilayam	9.8 / 10

COURSEWORK INFORMATION

- Probability and Random Processes for Signals and Systems
- Artificial Intelligence Foundations and Applications
- Geometric Methods for Computer Vision
- Machine Learning for Signal Processing
- Covex Optimization in Control and Signal Processing
- Linear Algebra for Signals and Systems
- Deep Learning Foundations and Application
- Digital Image Processing
- Statistical Signal Processing
- Digital Signal Processing

PROJECTS

» M.Tech Project

Title: Deep Underwater Image Enhancement.

Guide: Dr Anirban Mukherjee. (EE Dept, IIT Kharagpur)

Description:

- Trained deep CNN on synthetic datasets for enhancing authentic underwater images.
- Implemented No Reference Image Quality Assessment method(NUIQ) for Underwater Images.
- Trained model to compare diverse underwater image enhancement algorithms using SAUD.

» Coursework Projects:

Colour balance and contrast stretching for sand-dust image enhancement.

- Performed colour compensation by white balancing and converted the image from RGB to HSV colour space.
- Enhanced image by normalizing saturation and adjusting the contrast using CLAHE on the luminance component.

ECG-based Arrhythmia detection using R-R interval and Average Energy.

- Preprocessed the ECG data and extracted features, RR intervals and Average Energy from the ECG data.
- Trained support vector machine (SVM) for classifying normal and abnormal ECG data and achieved 95% accuracy.

Filtering a signal corrupted by Gaussian Noise using a Wiener filter

- Employed Wiener filter to denoise signals and computed optimal weights via Wiener-Hopf equations.
- Analyzed Steepest Descent Algorithm convergence on Error performance surface.

SKILLS AND EXPERTISE

- Programming Languages: C++,Python.
- Operating System: Windows, Linux.
- Software and Tools: Matlab, Latex, Jupyter Notebook, Google Colab.
- Deep Learning Frameworks: Pytorch, Tensorflow, Keras.
- Data Analysis and Visualization packages: Numpy, Pandas, Librosa, Scikit-Learn, Matplotlib.
- Deep Learning Architectures : DNN, CNN, RNN, GAN, Autoencoder.
- Others: MS Word, MS Power Point, MS Excel.

CERTIFICATIONS

Matlab Fundamentals | C++ Course - Udemy | Image Processing in Matlab

POSITIONS OF RESPONSIBILITY

Teaching Assistant: Mentored the batch of 40 students in DSP laboratory under guidance of Dr.Debdoot Sheet.

AWARDS AND ACHIEVEMENTS

- Offered the EET 2022 (Electrical) position at NTPC based on GATE score.
- Secured an All India Rank of 887 in GATE EE 2022.
- Secured a State Rank of 17 in AP ECET-2018.
- Achieved a Silver medal at the 42nd Mathematical Olympiad sponsored by the Andhra Pradesh Association of Mathematics Teachers.

EXTRA CURRICULAR ACTIVITIES

- Participated in National Level Techfest Anusodhana'21 held at Acharya Nagarjuna University in 2021.
- Subject Matter Expert for Electrical Engineering at Chegg.