

# Meghana Manvitha Venna

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## EXPERIENCE

### AI Engineer Intern (ADAS)

Nov 2023 – Present

*Valeo India*

*Chennai*

- Worked on ADAS-based deep learning model deployment and optimization for automated parking technology in the upcoming BMW Neue Klasse series, utilizing Qualcomm's Snapdragon Ride platform.
- Applied quantization techniques like Post-Training Quantization (PTQ) and Quantization-Aware Training (QAT) to convert ADAS models from floating-point precision to INT8 for various clients, ensuring minimal accuracy loss and stable on-device performance.
- Enhanced a 12-decoder level ADAS model by replacing operations with hardware-efficient alternatives, maintaining performance and accuracy.
- Contributed to pipeline automation, reducing work time from 3 days to half a day, significantly accelerating release cycles.
- Developed LIDAR data visualizations for real-time assessment of ADAS model performance, ensuring high reliability.

### Deep Learning Research Intern

Jan 2023 – Aug 2023

*IIITDM Kancheepuram*

*Chennai*

- Identification of important Cepstrals for Diagnosis of Alzheimer's Dementia using Deep learning based acoustic analysis
- Tools & technologies used: Tensorflow, Audacity, Keras, Pandas, IPython, Origin
- Extracted log Mel, MFCC, GFCC and BFCC cepstral coefficients from audio interviews of elderly individuals from famous Interspeech ADReSS challenge dataset.
- Implemented customized *EfficientNet B0* model to classify audio samples for Alzheimer's dementia detection using pure acoustic signals
- Achieved 73% classification accuracy with 0.73 precision rate, one of the best results using pure acoustics
- Acoustic nature of the model makes it globally applicable and consistent performance makes it suitable to be extended to real time evaluation for AD diagnosis.
- Link to [Project GitHub Repository](#)
- Presented conference paper at the Emerging Electronics and Automation Conference 2023 hosted by NIT Silchar.

## EDUCATION

### Indian Institute of Information Technology

GPA: 8.7/10

*Bachelor of Technology in Computer Science and Engineering, Chennai*

*Dec 2020 - May 2024*

### FIITJEE Junior College

JEE: 98.42, GPA: 9.94/10

*Board of Intermediate Education, Andhra Pradesh*

*2018 - 2020*

### Sri Chaitanya Techno School

GPA: 10/10

*Board of Secondary Education, Andhra Pradesh*

*2017 - 2018*

## TECHNICAL SKILLS

**Languages:** Python, C/C++, SQL

**Frameworks:** PyTorch, ONNX, AIMET, OpenVINO, TensorFlow, CUDA, Streamlit, Keras

**Developer Tools:** Git/GitHub, Docker, Unix/Linux Shell, Google Cloud Platform, VS Code, Jupyter

**Libraries:** Scikit-Learn, onnxruntime, Pandas, NumPy, Keras, HuggingFace, TensorFlow, Matplotlib, OpenCV

## COURSE WORK

Deep Learning, Computer Vision, Medical Image Analysis, Digital Image Processing, Pattern Recognition, Introduction to Biometrics, Biosignal Processing and Analysis, Operating Systems, Data Science, Object-Oriented Programming

## CONFERENCE PRESENTATIONS

- Evaluation of Acoustic Cepstral Coefficients in differentiation of Alzheimer's condition using spontaneous speech and Hyperparameter tuned EfficientNet ([certification](#))