HARSHITH REDDY T | ED18B036
Indian Institute of Technology Madras

EDUCATION

BTech in **Engineering Design** and MTech in **Data Science** - CGPA : **9.09**   (Graduating in 2023)

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank - 184** in JEE Mains Paper-2 and **All India Rank - 3461** in JEE Advanced
- Secured **State Rank - 71** in K-CET examination
- Secured **State Rank - 213** in TS-EAMCET and **State Rank - 246** in AP-EAMCET examinations
- **3rd Runner Up** in 7 th National Abacus and Brain Gym Competition conducted, 5 th December 2010

COURSE WORK

- **Mathematical Foundations of Data Science**
- **Introduction to Robotics**
- **Fundamentals of Machine Learning**
- Introduction to Data Structures and Algorithms
- **Neural Networks and Deep Learning**
- Introduction to Computation and Visualization
- Data Analytics Laboratory*
- Introduction to Data Analytics*

SKILLS

- Programming Languages :   C, **CPP,** R, **Python**, Matlab
- Libraries and Frameworks : **Sci-Kit, Keras, TensorFlow, Matplotlib, OpenCV, MediaPipe**
- 3d Softwares :   Solidworks, Fusion, Simflow, Abaqus
- Professional Skills :   Leadership, **Domain Adaptability, Inquisitive**

PROFESSIONAL EXPERIENCE

- **Research Intern | Xyma Analytics**   (May 2020-Jul 2020)
  - Idealised and developed the designs for two products namely **Xscope** and **Ports**
  - Have used **SolidWorks and Abaqus** for simulation and design of the products
  - Designed the models for **High Rigidity** and **Structurability** under harsh conditions
- **Research Intern | Robotics Lab (Prof : Asokan Thondiyath)**   (Dec 2019)
  - **Designed and Conceptualized** a new Robotic arm gripper with multiple **feature maps**
  - Have used **Fusion** to design the product and have **3D printed** the Gripper for Real Life usage
  - The new gripper is capable of performing more number of tasks compared to the previous gripper

DOMAIN PROJECTS

- **Human Pose Comparison**   **Computer Vision** (Jul 2021)
  - Applied **Media Pipe** package with Python for Pose Detection of Input Video and Test Video
  - Extracted the **Model points** and Normalized them to reduce the variance of different video samples
  - Applied **Dynamic Time Warping** for the Prediction of Score in Real time Compilation
  - The model can also **compare and predict score** for real time videos obtained from a sensor
- **Neural Style Transfer of Images**   **Deep Learning** (Jan 2021)
  - Applied a **19-layer version of VGG network** using transfer learning
  - Calculated a **Gram matrix** that includes means and correlations across the different **feature maps**
  - Optimized the output image to match the **content and style statistics** of both images
- **Time Series Analysis and Forecasting**   **Data Science** (Dec 2020)
  - Have done data pre processing and indexing to convert given data into time series data
  - Applied **statsmodels.api** for Time series analysis for performing decomposition of series
  - Applied **ARIMA** for Time Series Forecasting with extracted model parameters having least **AIC**
- **Face Recognition with SVD**   **Machine Learning** (Apr2020)
  - Extracted **Representative images** with characteristic features for 15 subjects under 10 different conditions by performing SVD
  - Applied Facial Recognition Method with smallest norm and got **accuracy of 137/150**