

Jinka Naga Sai Gowri

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Education

2022-Still **Indian Institute of Science, Bangalore:** M.Tech in Computational and Data Science CGPA: 7.9
2015-2019 **Visvesvaraya National Institute of Technology, Nagpur:** B.Tech in Electrical and Electronics Engineering CGPA: 7.3
2013-2015 **Sri Chaitanya Junior College, A.P:** High School Percentage: 97

Work Experience

HERO MOTOCORP

Chittoor, India

Graduate Engineer Trainee (SUPPLIER QUALITY ASSURANCE)

2019 - 2020

- Collaborated with suppliers to conduct quality audits and implement rigorous quality checks, ensuring the delivery of high-quality parts for vehicle manufacturing.
- Utilized statistical and data analysis techniques to identify and resolve issues related to 2-wheeler quality using QC tools.

MTech Project(Ongoing)

Applications of Circulant Decomposition of Matrices

Numerical Linear Algebra

Ongoing

- Developed Algorithms to generate the circulant components of any General matrix, further reduced for special matrices in terms of complexity
- This algorithm is implemented for toeplitz matrix, and the resultant circulant components are used for toeplitz matrix multiplication and toeplitz linear solver.
- **Achievements:** Got the most prominent components in $\mathcal{O}(n)$, Approximated Toeplitz matrix multiplication in $\mathcal{O}(n^2 \log(n))$, approximated Toeplitz matrix inverse in $\mathcal{O}(n \log(n))$.
- **Future Work:** Enhancing the reliability of the algorithms by reducing the error, extending the decomposition for symmetric matrices.

Projects

Neural Art Transfer

CNN/Transfer Learning

- The Neural Art Transfer Model is built on the VGG19 architecture, a pre-trained convolutional neural network trained on the ImageNet dataset, to generate a stylized image from given content and style images.
- **Tools and Technologies:** Python, TensorFlow, VGG19, Keras.

Question Answering Model

Natural Language Processing

- A Python-based question-answering model built with the simpletransformers module that can find the answer to a question given a question and an accompanying context. The predicted answer will be either a span of text from the context or an empty string (indicating that the question cannot be answered from the context)
- **Tools and Technologies:** Python, transformers.

Bayesian Data Analysis

Bayesian Learning

- Analyzed video game sales dataset using Bayesian modeling techniques to identify patterns, clusters, trends, and correlations, showcasing the ability to derive meaningful insights and make informed decisions through probabilistic approaches.
- **Tools and Technologies:** Python, pymc3.

Feedforward Neural Networks from Scratch

Deep Learning

- A deep dive into implementing feedforward neural networks using only NumPy and Pandas.
- Optimizing algorithms stochastic gradient descent, Adam and Nag along with backpropagation algorithms are implemented and the same are use for MNIST handwritten digits classification.
- Variation in train loss for epochs is observed for different optimization techniques
- **Tools and Technologies:** Python, numpy.

Relevant Academic Courses

- Numerical Linear Algebra
- Stochastic Models and Applications
- Mathematical Methods for Machine Learning
- Introduction to Data Science
- Bayesian Learning
- Natural Language Processing(NPTEL)

Skills

- Technical** Python (Pandas, PyTorch, NumPy, Scikit-learn, pymc3, keras, NLTK, transformers(begginer) etc.), C++, MATLAB, Linux, LaTeX (Overleaf), SQL.
- Soft Skills** Time Management, Literature Review, Problem-solving, Report Writing, Engaging Presentation.

Achievements

- 2022 **AIR 64**, Graduate Aptitude Test in Engineering
- 2022 **Elite**, Kaggle in-class Competition(5th position)