SRIPADA SAI CHARAN

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sai-charan1 Sai Charan Sripada

Education

- **INDIAN INSTITUTE OF TECHNOLOGY BHILAI** *May 2026*
  BTECH - ELECTRICAL ENGINEERING CGPA: 7.97.
- **IMPULSE JUNIOR COLLEGE** *Mar 2022*
  Telangana State Board of Intermediate Education, Telangana Percentage: 98.1.

Experience

Research And Development - IBITF, IIT Bhilai

Wearable Solutions For Heat Stress May 2024 - July 2024

- Designed an innovative system using C++ and Arduino to validate wearable technology's benefits; findings contributed to increased engagement with over 300 farmers participating in health improvement initiatives.
- Leveraged ESP32 and Google Firebase for real-time data transmission and health tracking.
- **Tools & technologies used:** C++, Arduino, Arduino IDE.

Languify - ML Intern

Implemented Vision Transformer Model for Image Classification Aug 2024 - Sep 2024

- Implemented and trained a Vision Transformer (ViT) model on the CIFAR-10 dataset to evaluate its performance against traditional Convolutional Neural Networks (CNNs). Utilized self-attention mechanisms to capture global and local features, achieving competitive accuracy in image classification tasks.
- **Tools:** TensorFlow, Keras, Python, Vision Transformer (ViT), CIFAR-10, Adam optimizer, Data Augmentation, Matplotlib.

Projects

Automatic License Plate Detection for Enhanced Traffic Management

- Crafted an innovative vehicle identification solution utilizing advanced algorithms including YOLOv8 and OCR, enabling effortless tracking of over 5,000 vehicles in diverse environmental settings.
- Processed and converted 433 pre-annotated XML images to YOLO format, and trained the model over 100 epochs, achieving high performance with mAP@0.5-0.7 and mAP@0.5:0.95.
- Deployed the model via Streamlit, enabling efficient processing times and improving response rates to incoming data queries by over 30%.
- **Tools:** YOLOv8, OCR, OpenCV, PyTorch, TensorFlow/Keras.
- **GitHub:** github.

Credit Card Risk Monitoring System

- Built a machine learning model using XGBoost, achieving 80% accuracy in predicting credit card approval risk by analyzing over 10,000 records with advanced feature engineering techniques like VIF and Chi-square tests.
- Deployed the solution via Flask, enabling real-time predictions and improving user interaction efficiency by 30%, enhancing decision-making for credit risk assessment.
- **Tools & technologies used:** XGBoost, GridSearchCV, Pandas, NumPy, Flask, HTML, Pickle.
- **GitHub:** github.

Movie Recommender System

- A content based movie recommender system using Cosine Similarity.
- Executed a robust machine learning model capable of recommending up to five personalized movie suggestions for users interaction by analyzing patterns within more than 8,500 unique film entries retrieved from Kaggle.
- **Tools & technologies used:** Bag of Words, NLTK, Streamlit, Heroku.
- **GitHub:** github.

Technical Skills and Interests

- **Languages**: Python, C, CPP, SQL
- **Libraries & Frameworks**: PyTorch, TensorFlow, OpenCV, LangChain, NumPy, Pandas, Keras, Matplotlib, Scikit-learn, Streamlit, Flask, BeautifulSoup
- **Machine Learning Skills**: LLMs, Object Detection, Facial Recognition, MLOps, CNN, GNN,GAN, RNN, ANN, YOLO, Attention, Transformers
- **Softwares & Tools**: SQL, Visual Studio Code, Git, Jupyter Notebook, Google Colab, Arduino, MATLAB, Google Firebase, Docker, Linux, OpenCV, TensorBoard
- **Course Work**: Digital Image Processing, Digital Signal Processing, Communication Systems, Embedded Systems, Introduction to C Programming, Probability and Statistics, Calculus, Linear Algebra
- **Soft Skills**: Facilitated cross-functional teamwork among design and development teams, Effective Communication

Positions of Responsibility

- **Volleyball Community Leader,** Sports Council of IIT Bhilai *April 2024 - Present*
- **Core Member,** DesignX *April 2023 - Present*

Achievements

- **Flipkart Grid Challenge:** Qualified in the first level quiz of the competitive coding quiz in Flipkart Grid.