

# K.SRUJAN | ENGINEERING GRADUATE

## PROFESSIONAL SUMMARY

To seek and maintain full-time position that offers professional challenges utilizing technical skills, interpersonal skills, excellent time management and problem-solving skills.

## CORE SKILLS

- ✓ **AI/ML/DL & Prompt Engineering**
  - Data Analysis and visualization
  - Feature Engineering
  - Optimization Techniques
  - Model deployment and maintenance
  - Algorithm development
  - Pattern Recognition
  - Object recognition and tracking
  - Medical imaging
  - 3D Detection and Reconstruction
  - Image Enhancement and restoration
- ✓ **Electronics and Robotics**
  - Robotics Design and Development
  - Control System Engineering
  - System Intergration and Automation
  - Robotic system testing and validation
  - Manufacturing process improvement
  - Signal Processing and analysis
  - PCB Designing and Prototyping
- ✓ **Other**
  - Research and development
  - Project Management
  - Creative problem-solving
  - Team collaboration and communication
  - Git version Control
  - Coding Languages: Python ,Matlab ,C ,C++ ,VHDL ,HTML & CSS.

## PROFESSIONAL EXPERIENCE

### DRDO-DRDL(Defence Research and Development Laboratory), Hyderabad, Telangana(500058)

Intern/Trainee | 06 January, 2023 - 06 June,2023

- 6-month stint on Indigenous Defence Projects.
- Focused on AI Band Vision Project led by Dr. Akula Naresh (Scientist-F) (Industrial Mentor).
- Implemented YOLOv7 on NVIDIA Jetson AGX Xavier.
- Task involved Real-time aerial view object detection leveraging a custom dataset on YOLOv7, trained on NVIDIA Jetson AGX Xavier and deployed on an aerial vehicle (Tunga) equipped with NVIDIA Jetson Nano and Pixhawk.
- Added Parameters (Code) to the detection for specific applications under guidance of Industry Mentor.
- Collaborated with cross-functional teams to integrate enhanced object detection.

## PORTFOLIO WEBSITE LINK

- <https://srujan29112001.github.io/PortfolioS/>

## CERTIFICATIONS

- Modern Computer vision GPT ,OpenCV4 in 2024 - Udemy.
- TensorFlow Developer in 2023:Zero to Mastery - Udemy.
- PyTorch for Deep Learning Bootcamp - Udemy.
- Disaster Risk Monitoring Using Satellite Imagery - NVIDIA.
- Complete AI ,Machine Learning and Data Science Bootcamp - Udemy.
- The Complete Prompt Engineering for AI Bootcamp (2024) - Udemy.
- Workshop/Develop, Customize, and Publish in Omniverse With Extensions - NVIDIA.
- Applied Control Systems 1:autonomus cars: Math+PID+MPC - Udemy.
- Self Driving and ROS 2-Learn by Doing! Odometry & Control - Udemy.
- Complete Neural Signal Processing and Analysis:Zero to hero - Udemy.
- VLSI SoC Design using Verilog HDL - Maven Silicon.

## EDUCATION

### 2019 - 2023 | Thapar Institute of Engineering and Technology

Bachelor of Engineering in Electronics and Communication Engineering  
CGPA: 6.60

### March - 2019 | Krishna Murty IIT Academy

11th&12th Standard (MPC)  
CGPA: 8.96 ,JEE Mains Score: 95.3 %ile

### April - 2017 | All Saints High School

10th Standard  
CGPA: 8.3

## RELAVENT PROJECTS

1. **Minor Project** (Capstone Project): LIFI-based communication system (PC to PC data transfer) .
2. **Major Project** : Real-time aerial view object detection leveraging a custom dataset on YOLOv7, trained on NVIDIA Jetson AGX Xavier and deployed on an aerial vehicle (Tunga) equipped with NVIDIA Jetson Nano and Pixhawk.
3. **2D Image To 3D Point Cloud**
  - This project involves using a depth estimation model from the Hugging Face Transformers library to predict depth from a 2D image.
  - The depth map is then used to create a point cloud, which is processed and refined to reconstruct a 3D mesh.
  - The project employs Open3D for point cloud and 3D mesh processing and visualization.
4. **Lip Read To Text**
  - This project involves building a LipNet-based lip reading model using TensorFlow and Keras.
  - The process includes video data preprocessing, model development, training, and evaluation.
  - The model uses a combination of 3D convolutional layers and Bidirectional LSTMs to capture temporal and spatial features of mouth movements and convert them into text.
5. **Speed Estimation And Vehicle Counter**
  - This project employs YOLOv8, a state-of-the-art object detection model, to detect vehicles in a video.
  - Detected vehicles are tracked using a custom tracking algorithm. Two horizontal lines are drawn on the video frame to measure the speed of vehicles by calculating the time taken for vehicles to cross from one line to the other.
6. **Optimized Ludo with Q-Learning**
  - This project leverages Q-learning, a reinforcement learning algorithm, to create an AI agent that plays Ludo.
  - By maintaining a Q-table to record the value of actions taken in different states, the agent learns which actions yield the highest rewards over time.
7. **Breast Cancer Tumor Classification**
  - This project aims to classify breast cancer tumors into malignant or benign categories using machine learning techniques.
  - The dataset is preprocessed by handling missing values and encoding categorical features.
  - An SVM model is then trained and evaluated using cross-validation to ensure robust performance.
8. **Sentiment Analysis On IMDB Reviews**
  - This project focuses on building and evaluating different neural network models for sentiment analysis using IMDB movie reviews.
  - The project involves preprocessing text data, creating word embeddings using GloVe, and training three types of neural networks: SNN, CNN, and LSTM.
  - The performance of each model is evaluated, and the best-performing model is used to predict sentiments on unseen movie reviews.
9. **PID Control Simulation for Falling Cube**
  - This project involves simulating a PID-controlled train on an inclined rail trying to catch a falling cube.
  - The simulation calculates the train's displacement, velocity, acceleration, and PID controller's error metrics (horizontal error, rate of change of error, and integral of error) over time.
10. **Time-Frequency Analysis of Neural Signals Using Complex Morlet Wavelets**
  - The project involves analyzing neural signals using complex Morlet wavelet convolution to extract power and phase information for specific EEG trials. The analysis is performed on data from a specific trial and all trials.
  - The project also explores the effects of edge artifacts on time-frequency responses using a square-wave signal.

## LANGUAGES

- Native Telugu.
- Hindi.
- English.
- French.

## HOBBIES

- Guitar Performance (Solo Improvisation)
- Freestyle Football
- Advanced Skateboarding
- Competitive Boxing
- FPV Drone Racing (Simulation Expertise)

## CONTACT INFORMATION



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<https://github.com/Srujan29112001?tab=overview&from=2023-11-01&to=2023-11-30>



<https://www.linkedin.com/in/k-srujan2>