K. SRUJAN

Engineering Graduate

I am an Ambitious Engineering Graduate, Enthusiastic about leveraging my technical skills and practical experience to contribute to innovative projects and advance the field of electronics and AI. My dedication to learning and problem-solving, coupled with a strong foundation in both theory and hands-on application, positions me as a dynamic and valuable asset in any technologically-driven environment.

EDUCATION

April 2017
10th Standard
All saints high school, Abids, Hyderabad.
CGPA: 8.3

March 2019
11th&12th Standard MPC
Krishna Murty IIT Academy,
Vidyanagar, Hyderabad.
CGPA: 8.96 , JEE Mains Score: 95.03%ile

June 2023
Bachelor of Engineering in ECE
Thapar Institute of Engineering and Technology, Patiala, Punjab.
CGPA: 6.60

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.
- 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.

PORTFOLIO WEBSITE LINK

https://srujan29112001.github.io/PortfolioS/

HOBBIES

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

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WORK EXPERIENCE

January 2023 to June 2023
Deep Learning Intern /Trainee
DRDL(Defence Research and Development Laboratory),
Hyderabad , India

- 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.

SKILLS

- Electronics and Robotics. ★★★★★
- AI/ML/DL & Prompt Engineering. ★★★★★
- Research and Development. ★★★★★
- Project management. ★★★★★
- Creative problem-solving. ★★★★★
- Coding Languages:
  Python(Expert) ,Matlab(Very Good) ,
  C(Intermediate) ,C++(Intermediate) ,
  VHDL(Intermediate) ,
  HTML & CSS(Good).

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. **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.
6. **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.
7. **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.
8. **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.