

SHIVA SANKETH RAMAGIRI MATHAD

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in <https://www.linkedin.com/in/shivasanketh-rm/>

🔗 <https://explorethehorizon.com/>

🔗 <https://github.com/shivasanketh-rm>

EXPERIENCE

Design Engineer (Machine Learning)

Tata Elxsi

📅 Nov 2016 - Dec 2018

- Research and development of machine learning for Autonomous Vehicle Development and Driver Monitoring System

Autonomous Vehicle Development

- Achieved 84% accuracy on Object Detection and Tracking for Pedestrian Tracking and Vehicle Tracking using SSD at 22 FPS on NVIDIA 1080Ti GPU.
 - Python, Keras, OpenCV, Deep Learning, Computer Vision, Linux
- Assisted in the implementation of algorithms - A*(A star), Particle Swarm Optimization (PSO) and Rapidly Growing Random Tree (RRT) for Path and Motion Planning along with Optimization premised on research papers.
- Implemented Stop-and-go feature and Intelligent Adaptive Cruise Control based on Real Time continuous data from varying sources as part of Trajectory Follower System for Traffic Jam Assist along with Lane detection.
 - Python, Deep Learning, OpenCV, Tensorflow, C++

Driver Monitoring System

- Designed a pipeline for Machine Learning based Real Time Driving Monitoring System which was selected for implementation.
- Developed the following for the pipeline - Head pose Estimation, Eye gaze detection and Tracking, Eye Open percentage Estimation, Facial Emotion Recognition and Driver Drowsiness Detection achieving upto 20 FPS on NVIDIA 1080Ti with an input of 30 FPS.
 - Python, OpenCV, Keras, Machine Learning, Deep Learning, Time Series Analysis

SKILLS

- Languages: Python, C, C++, SQL, HTML, JavaScript
- Libraries: PyTorch, keras, tensorflow, nltk, Pandas, NumPy, scikit-learn
- Platforms: Linux, Windows, Jupyter Notebook, Git, MySQL
- Interpersonal skills: Effective Communicator, Team Player, Adaptability, Leadership, Fast learner

EDUCATION

MS - Computer Engineering - 3.33/4

New York University, Tandon School of Engineering

📅 Jan 2019 - Dec 2020

B.Engg - Electronics and Communication - 70%

BMS Institute of Technology Bangalore

📅 2012 - 2016

KNOWLEDGE/INTERESTS

- Machine Learning, Deep Learning, Data Science, Natural Language Processing(NLP), Computer Vision.

PROJECTS

Chatbot - "Alex"

- Developed an interactive chatbot embedded robot that can provide visual response for queries sent over Bluetooth
- The robot is capable of movement based on the interpretation of received messages using the chatbot.
- "Alex" was used in the college technical fest to smartly answer queries of the attendees
- Platforms: Python, Natural Language Processing, NLTK, Regular Expressions,

Data Analysis and Sentiment Analysis

- Implemented a project on analyzing large-scale data and deriving insights from Airbnb dataset of New York City
- Developed rule-based Sentiment Analysis to derive user insights from user review data
- Platforms: Machine Learning, Data Science, Python, matplotlib, NLTK, Data Analysis.
- <https://github.com/shivasanketh-rm/AirBnB-trends-in-NYC>

Text Prediction and Poem composer

- Developed Text Prediction algorithm without making use of any NLP specific libraries, capable of composing appreciably meaningful text paragraphs.
- Modified the same text predictor which allows users to compose Shakespeare like poem with the algorithm
- Platforms: Natural Language Processing, Python, PyTorch, Data Science, RNN, LSTM.
- <https://github.com/shivasanketh-rm/Text-Prediction>

SLAM using Deep Learning

- A research project for Simultaneous Localization and Mapping of an interior region using Deep Learning
- Platforms: Deep Learning, PyTorch, Open3d, Artificial Intelligence, Point Cloud

Electronic Music Synthesizer

- Developed an electronic music synthesizer using lasers and sensors that can produce music of varied frequency and tones
- Provisional patent - India (5612/CHE/2014 dated: 07/11/2014) has been issued.