SHIVA SANKETH RAMAGIRI MATHAD

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OBJECTIVE

To seek challenging opportunities and carry out extensive research that contribute to the growth of the organization and at the same time help me with the best of learning opportunities to enhance my technical skills as well as my personality at large.

SUMMARY

Two years of professional experience working on **Computer Vision and Deep Learning for the development of Self-Driving Car and Active Safety Project**

PROFESSIONAL EXPERIENCE:

Tata Elxsi Ltd, Design Engineer **(Nov 2016 – Dec 2018)**

- Autonomous Vehicle Development:
  - Worked on algorithms - A*(A star), Particle Swarm Optimization (PSO) and Rapidly Growing Random Tree (RRT) for **Path and Motion Planning** along with Optimization.
  - Worked on **ROS (Robot Operating System)** for integrating modules such as Lidar, UltraSonic to the core Autonomous Vehicle Development Pipeline.
  - Worked on **Object Detection and Tracking based on Transfer Learning** for Pedestrian Tracking and Vehicle Tracking
  - Worked on Stop-and-go feature as part of Trajectory Follower System for Traffic Jam Assist.
  - Devised Embedded System circuitry along with embedded software to support the Drive-By-Wire system of the Autonomous Vehicle.
- Driver Monitoring System:
  - **Designed the pipeline for Machine Learning based Driving Monitoring System**
  - Worked on the following features for the **Machine Learning based pipeline - Head pose Estimation, Eye gaze detection and Tracking, Eye Open percentage Estimation and Facial Emotion Recognition.**

ACADEMIC PROJECTS (Undergraduate Level):

- Alex, a wireless interactive bot capable of Voluntary movement based on interpretation of messages
- Brain state estimation using single channel electrode, also devised a mind controlled bot based on these processed signals.

ACADEMIC PROJECTS (Graduate Level):

- **Fast Neural Artistic Style Transfer based on Convolutional Neural Networks**
- Working on **Simultaneous Localization and Mapping**: Parallel Tracking and Mapping using Deep Learning and Open3d (Currently working).

CERTIFICATIONS:

- **Machine Learning by Stanford University on Coursera.**
- **Deep Learning: Advanced Computer Vision on Udemy**
- **Data Science Nanodegree on Udacity (Currently Pursuing)**

EDUCATION:

- **Master of Science in Computer Engineering** **(Jan 2019 – Dec 2020)**
  New York University, Tandon School of Engineering GPA 3.33/4.0
- **Bachelor of Electronics and Communication Engineering** **(July 2012 – June 2016)**
  BMS Institute of Technology (Visvesvaraya Technological University) GPA 3.5/4.0

SKILLS:

- **Areas of Interest/Knowledge: Machine Learning, Deep Learning, Computer Vision, Transfer Learning, Path Planning**
- **Programming Languages: Python**, C++, C, JAVA, HTML, CSS, SQL, Visual Basics.
- **Computation and Engineering Tools:** ROS (Robot Operating System), MATLAB, Octave, Multisim, Julia(basics), CCS, Jupyter Notebook.
- **Operating Systems:** Microsoft Windows, Linux.
- **Libraries: TensorFlow, OpenCV, NLTK, scikit-learn, SciPy, NumPy, Keras, Pandas, PyTorch, Open3d**.

ACHIEVEMENTS & EXTRACURRICULAR ACTIVITIES

- Involved in a start-up “OpencubeLabs” (incubated at BMSIT&M) during undergrad course.
- Under “OpencubeLabs”, developed Cansats, organized workshops on Arduino and Image processing on Raspberry pi, also organized a 24 hrs hackathon with “space technologies” as the theme.
- Developed a musical infotainment kit “Laser synth” for which a provisional patent (5612/CHE/2014 dated: 07/11/2014) has been issued.