VENKATA SRUTHI BOMMU

716-910-7683 vbommu@buffalo.edu LinkedIn github

Education

State Univeristy of NewYork (SUNY)-Buffalo,Newyork ,USA **Aug. 2023 – Dec 2024**
Masters of Science in Robotics *CGPA -*

Indian Institute of Information and Technology, India **Aug. 2014 – May 2019**
Masters of Technology in Product design *CGPA-3.7/4*
Bachelors of Technology in Mechanical Engineer

Relevant Course work

- Machine Learning
- Computer vision
- Linear Algebra
- Deep learning
- Calculus
- Probability
- Image processing

Technical Skills

Languages : C++, Python , C, Matlab , CNC
Developer Tools: PyCharm, Jupyter notebook
Technologies/Frameworks: Linux, GitHub
Libraries: Pytorch , OpenCV , Numpy ,matplotlib , Scikit-learn, pandas
Modeling software : Catia ,Autodesk inventor, Fusion 360 ,Unigraphics NX 12.0 ,CREO 4.0 , Autocad
Simulation Tools :Ansys CFX 14.5, Turbogrid , ICEM ,Ansys structural
Certifications: Six Sigma Yellow belt and Six Sigma White belt

Patents

- US Patent No. 18/315071, "Brake actuator for a vehicle including a cylinder and dust plug," filed on May 1, 2023, United States Patent and Trademark Office
- Indian Patent No. IN 202211070781, " "Method for preventing accidents in a traffic situation," filed on December 8, 2022, Indian Patent Office
- Indian Patent No. IN 202211032876, " "A driver assistance arrangement for a vehicle , in particular a utility vehicle , a vehicle , a driver assistance method for a vehicle and a computer program," filed on June 10 , 2022, Indian Patent Office
- Indian Patent No. IN 202241027019, "Spring brake actuator for a vehicle comprising a cylinder and respective dust plug and Respective dust plug," filed on May 5,2022 , Indian Patent Office
- Indian Patent No. IN 202041051108 "Brake actuator for a vehicle, braking system and vehicle having the same," filed on May, 2020, Published on May , 2022, Indian Patent Office
- Two defensive publications applied in ZF Friedrichshafen AG (Commercial Vehicle Control System Division) titled Dust plug - Partially sealed and Dust plug Completely sealed

Projects

Lane detection and vehicle tacking on road | *Python, OpenCV,Numpy, Pandas* **October 2023**
- Designed an algorithm for lane detection in a vehicle using perspective transformation , edge detection and hough transforms
- Implemented YOLO3 algorithm for image classification and object localisation for vehicle tracking

Accident prevention system | **May 2022**
- Retrofittable driver assistance warning system is devised for commercial vehicles to prevent accidents on single lane mountain roads , sharp turn with blind spots and steep gradients
- System uses dynamic boundary layer of vehicle for speed alterations and lane detection methods and road signs detection for providing assistance to driver

Automation of design process for any mechanical component | *Python , MatLab* **March 2022**
- Developed an algorithm to generate multiple designs for given component and determine design parameters that can minimize cost for given constraints, reducing the time and effort required for design process

Experience

Engineer - Airframe **Airbus** **India** **06/22 - 07/23**

- Involved in development of A350 freighter aircraft, mainly in designing of fuselage section
- Built automation tool for weight calculation of A350 freighter aircraft implementing ML and Computer vision techniques

Associate Engineer **ZF Friedrichshafen AG** **India** **07/19 - 06/22**

- Worked on Autonomous driver assistance system in commercial vehicle control system Division and on braking system of heavy commercial vehicles
- Saved 20K$ by introduction of automation in areas of documentation (Bill of documents
- Decreased the cost of actuator by 10% by performing design processes starting from material selection to validation of concepts design , calculations and analysis

Research Intern **Defense Research and Development Organisation** **India** **05/18 - 10/18**

- Estimated design parameters,loss parameters ,efficiency of compressor , surge margins and fluid flow input parameters and structural properties using CFD analysis data
- Performed computation fluid dynamics (CFD) analysis and structural analysis of centrifugal compressors in turbocharger with and without Inlet guide vanes
- Designed and simulated a mechanism to transfer motion from external actuator to Inlet Guide Vane

Intern **Bharath dynamics limited** **India** **06/16 - 07/16**

- Developed a CNC program for path optimization that saved manufacturing time by 10% and cost by 17%