T Vivek Sai Surya Chaitanya

viveksaisurya07@gmail.com
linkedin.com/VivekSai07
github.com/VivekSai07
portfolio.com/VivekSai07

Nationality: Indian
Date of Birth: 07.07.2003
Mobile: +49 15510421564

Profile Summary

Graduated with **distinction** and secured **8th rank** in Bachelor of Technology (Computer Science – AI), and currently pursuing a Master's in Computer Science (Autonomous Systems) at the University of Stuttgart. I am seeking a hands-on internship/working student role that bridges AI, robotics, and real-world system interaction.

Education

Master of Science | ***Computer Science (Major: Autonomous Systems)*** — Oct. 2024 – Present
University of Stuttgart — Stuttgart, Germany

Bachelor of Technology | ***Computer Science and Engineering (Artificial Intelligence)*** — Oct. 2020 – Apr 2024
Amrita Vishwa Vidyapeetham – GPA: 1.70 — Chennai, India

Work Experience

Student Assistant | ***University of Stuttgart, Germany*** — Dec 2024 – Sep 2025

- Implemented a vision-guided **pick-and-place pipeline** for the Franka Research 3 (FR3) collaborative robot using **AprilTag-based 6D pose estimation** to autonomously assemble **wooden hexagon cassettes**.
- Developed and optimized **AI-driven perception and control algorithms** for **automated Lashing Joint assembly**, improving precision and cycle time in robotic manufacturing workflows.
- Integrated **camera-based marker detection** with **ROS2** for real-time feedback control and enhanced robotic positioning accuracy.
- Contributed to the **synchronization of dual robotic systems** for coordinated manipulation tasks, including **lashing and prestressing of timber elements**, leveraging **multi-robot communication and control frameworks**.

Research Intern | ***IIITDM, Kancheepuram, India*** — Jun 2023 – Aug 2023

- Developed an innovative model that combines keras pre-trained models with vision transformers (HybridViT).
- Implemented quality control measures for research procedures, minimizing errors and ensuring accurate findings, achieving an impressive accuracy rate of 93.71%.
- Recorded and analyzed data to produce reports of results.

Projects

Differential Drive FusionBot: From CAD to Autonomous Mapping | ***ROS, Python*** — June 2024

- Designed a differential drive robot in Fusion 360, converted to URDF, and integrated with ROS for control. Simulated in Gazebo, the robot autonomously maps environments using a laser sensor.

Hopping Robot Foot Placement Controller | ***MATLAB*** — Jan 2023

- Implemented Raibert Controller for precise dynamic foot placement, demonstrating control systems expertise.

Biped Walking Robot Simulation | ***MATLAB*** — Sep 2022

- Simulated two-legged robot motion in MATLAB, accurately modeling kinematics and dynamics to test control strategies for walking robots.

A Simulation of Closed-Loop Mechanisms | ***MATLAB*** — Apr 2022

- Explored closed-loop configurations, analyzing parameter impacts to inform real-world mechanism design and control.

RoboViz: MATLAB Robotics Visualization Tool | ***MATLAB*** — Oct 2021

- Created an interactive platform for visualizing and analyzing arm dynamics with user-friendly controls.

Skills

Programming:	Python (NumPy, Open3D, Pandas, SciPy), C++, MATLAB, Java; Linux-based development
Robotics:	ROS1 & ROS2, Manipulation Strategies, Robot Kinematics, Motion Planning, Camera Calibration, Coordinate Transformations
Computer Vision:	Object Detection, OpenCV, AI-based Perception Systems
Machine Learning:	PyTorch, TensorFlow; End-to-End Computer Vision Pipelines, Deep Learning for Perception, Model Training & Evaluation
Tools & Simulation:	Docker, Gazebo; Experience with Depth Cameras (RealSense)
Version Control:	Git, GitHub; Collaborative Software Development and Integration
Research & Evaluation:	Literature Review, Experimental Design, Metric-based Evaluation, Scientific Documentation
Soft Skills:	Analytical Thinking, Independent and Team Collaboration, Problem-Solving, Strategic Approach to Work
Languages:	English (C1), German (A1), Telugu (Native)

Conference Publications

- Aug 2025 — Leveraging CNN Features and Vision Transformers for Enhanced Focal Liver Lesion Classification
- Sep 2024 — Enhanced Alzheimer's Disease Classification: A Stacked Model Fusion with Brain MRI Imaging
- Apr 2024 — MedDQN: A Deep Reinforcement learning approach for Biomedical Image classification
- Jan 2024 — Extractive Document Summarization with Advanced Deep Reinforcement Learning
- Nov 2023 — Sarcasm Detection in Telugu and Tamil: An Exploration of Machine Learning and Deep Neural Networks
- Oct 2023 — Numerical Solution of First and Second Order Differential Equations with Deep Neural Networks

Journal Proceedings

- Apr 2025 — HybridViT: An Approach for Alzheimer's Disease Classification with ADNI Neuroimaging Data