PRASANNA VARDHMAN GEBISE

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Education

Vishwakarma Institute of Technology, Pune May 2025
Bachelor of Technology in Electronics and Telecommunication (GPA: 8.07 / 10.00) *Pune, Maharashtra*

- **Relevant Coursework:** Data Structures and Algorithms, OOPS, OS, Digital Design
- **Languages:** Python, ROS2, ROS, Linux, C++
- **Technical Skills:** Robot Operating System (ROS2 and ROS), Automation, Robotics, Unmanned Aerial Vehicle (UAV), Drone Building, Avionics, Aerodynamics, Cable driven Manipulators, CAD modelling, Structural Analysis
- **Tools:** OpenCV, ROS2, ROS, Gazebo, Ardupilot, LabVIEW, Matlab, Mission Planner, Pixhawk, Arduino, Fusion360, VSCode, Github, XFLR5, Coppeliasim, Octave

Experience

Zebu Intelligent Systems Jun 2025 – Nov 2025
Robotics Software Intern *Hyderabad, Telangana*

Worked on firmware for drones, including implementation and testing of the following in simulation (Gazebo), as well as hardware deployment using onboard computer on drone. Had experience using both Raspberry pi 5 and Jetson Orin NX for hardware deployment.

- Kalman Filter for fusing multiple sensors like GPS, Camera and Rangefinder
- Finite State machine for smooth transition of drone while performing multiple tasks
- Visual SLAM and odometry using ORB-SLAM with monocular and stereo camera and IMU configurations
- Scene Reconstruction using structure from motion approaches like open-sfm and colmap
- OpenCV trackers and algorithms for feature detection and description like ORB, SIFT, SURF

Human Centered Robotics Lab, IIT Gandhinagar Aug 2024 – Apr 2025
Research Intern *Gandhinagar, Gujarat*

- Developed a cable driven parallel manipulator testbed for upper limb rehabilitation. My practical contributions include sensor interface, driving motors and development of a controller for maintaining desired forces on end effector which was deployed and tested in real-time on sbRIO using LabVIEW. Theoretical contributions include implementation of forward kinematics solution for over-constrained cable driven parallel manipulator using analytical approach and optimization of cable tensions using quadratic programming in LabVIEW.

e-Yantra, IIT Bombay May 2024 – Jun 2024
Summer Intern *Mumbai, Maharashtra*

- Developed an onboard LQR (Linear quadratic regulator) controller for a quadcopter using the feedback from a VIO (Visual Inertial Odometry) pipeline for state estimation of the drone indoors or at places where GPS is inaccessible.

e-Yantra, IIT Bombay May 2023 – Jun 2023
Summer Intern *Mumbai, Maharashtra*

- Developed an efficient Vertical Takeoff and Landing (VTOL) aircraft from scratch. Aerodynamic stability analysis in xflr5, 3D modelled the VTOL in Fusion360, Static structural and CFD analysis in Ansys. Fabricated the VTOL, integrated on board electronics and flight testing.

Team Griffin India, VIT Pune Aug 2023 – Aug 2024
Multirotor Captain *Pune, Maharashtra*

- Leading a student team that participates in SAE Autonomous Drone Development Challenge. Conducted a drone development workshop for college students with 50+ participants.

Team Griffin India, VIT Pune Aug 2022 – July 2023
Avionics Team member *Pune, Maharashtra*

- RC powerplant selection for planes and drones, on board electronics integration. Aerodynamic stability analysis in xflr5. Manufactured RC planes using Balsa wood.

Team Quark, VIT Pune Feb 2023 – July 2023
ROS Head *Pune, Maharashtra*

- Lead a technical team with training and projects in ROS. Linux, Robot operating system (ROS), MoveIt, Gazebo, Rviz, Fusion 360, Robotics.

Projects

Holonomic Art Bot

- Made a 3 wheeled holonomic art robot which is able to make complex locus and images on floor. It is mainly based on ROS. The project consisted CAD modelling and manufacturing, Image Processing, Control Systems, ROS, Socket Programming, Embedded C, etc.

ADHIC (Autonomous Disinfectant Holonomic Interactive Cobot)

- ADHIC is a robotic system designed with ROS for autonomous disinfection and interaction across various industries like hospitals, hotels and radioactive areas. Developed intelligent autonomous navigation using SLAM where LiDAR sensors, and camera systems enable precise obstacle avoidance and targeted disinfection.

Acheivements

eYSIP 2023 and 2024 Summer Intern at IIT Bombay.
AIR 3 in eYantra robotics competition 2022-23 held at IIT Bombay.
AIR 4 in eYantra robotics competition 2023-24 held at IIT Bombay.
One patent granted- ADHIC(Autonomous Disinfectant Holonomic Interactive Cobot).