ANANT GARG

Curriculum Vitae

Anant Garg | garg.anant205@gmail.com | +91 7887858890 | Anant Garg

EDUCATION

Birla Institute Of Technology and Sciences, Pilani *August 2017 - July 2021*
Bachelors of Engineering
Department of Mechanical Engineering
CGPA 8.25/10

PUBLICATIONS

- P. Paul, **A. Garg**, & T. Chaudhary. "LeGo-Drive: Language-enhanced Goal-oriented Closed-Loop End-to-End Autonomous Driving", *International Conference on Intelligent Robots and Systems (IROS), 2024* Paper Link

WORK EXPERIENCE

International Institute of Information Technology-Hyderabad, India January 2024 - Present
Research Assistant

· Role: Research Assistant at Robotics Research Center (RRC) in Autonomous Driving team.
· Currently working on a Diffusion based World Model for dynamic obstacle avoidance in Carla.
· Worked on a Visual Language Navigation (VLN) framework to predict goal coupled with a differential planner trained end-to-end, which resulted in one publication.
Supervisor - Prof. K. Madhav Krishna

Swaayatt Robots Pvt. Limited, India September 2021 - January 2024
Robotics and Simulation Engineer

· Role: Research on Behavioral and Motion Planning for Autonmous Vehicles in highly stochastic environments (especially found in India).
· Implemented a planning framework using Inverse Reinforcement Learning (IRL) and Graph Attention Networks(GATs) to plan a route and make decisions in stochastic environments.
Supervisor - Mr. Sanjeev Sharma

University of California, Berkeley, USA August 2020 - June 2021
Research Intern, Prof. Ashok Ajoy's research group

· Research focused on improving the design of a Nuclear Magnetic Resonance (NMR) probe to improve the signal quality. Achieved a signal quality improvement of about 32%
· Worked to improve the design by reducing the noise and optimizing the design to make the probe more modular and also to include more lasers to excite the sample and get a more clear signal.
Supervisor - Prof. Ashok Ajoy

Technical University of Munich, Germany April 2020 - May 2021
Research Intern

· Research focused on finding the Frequency Response Function (FRF) of a complex structure by decomposing it into mulitple simpler blocks.
· Worked on finding the dynamic properties of vehicle rubber mounts using frequency based sub-structuring and inverse sub-structuring methods.
Supervisor - Mr. Ahmed El Mahmoudi

SELECTED UNDERGRADUATE PROJECTS

Project Kratos, Mars Rover May 2018 - Jan 2020

- Led the project of engineering a 5-DOF Robotic Arm for a MARS Rover for Indian Rover Challenge.
- The Robotic Arm was capable of performing precision tasks such as operating a joystick and had a payload capacity of about 5 kgs.
- Involved in the minor capacity of designing the other mechanical sub-systems such as a double-lambda suspension and chassis for the rover.

Supervisor - Prof. Toby Joseph || Certificate *Asst. Professor, Dept. Mechanical Eng.* ***BITS Pilani***

Team Hyperloop India June 2019 - April 2020

- Worked on aerodynamics of the pod to reduce the aerodynamic drag and aerodynamic heating of the pod to achieve the maximum speed while keeping it under kantrowitz limit. We achieved a Cd value of 0.11.
- Was also responsible for making the carbon fiber monocoque for the Hyperloop pod and perform structural analysis on the pod and minimize air drag while maintaining its structural integrity.

Supervisor - Prof. MS Dasgupta || Certificate *Professor, Dept. Mechanical Eng.* ***BITS Pilani***

FUNDING

Received funding of Rs 50,000 from First degree director's fund for Project Kratos to build the first prototype of the rover.

TEACHING EXPERIENCE

Jan 2020 - March 2020

Teaching Assistant of Probability and Statistics course. Weekly taught a class of 30 students.
Supervisor - Prof. Mayank Goel || Certificate *Assistant Professor, Department of Mathematics* ***BITS Pilani***

REFERENCES

- **Prof. K. Madhav Krishna**. Professor, Head of KCIS and RRC. IIIT Hyderabad.
  mkrishna@iiit.ac.in
- **Prof. Ashok Ajoy**. Asst. Professor, Dept. of Chemistry. UC Berkeley.
  ashokaj@berkeley.edu
- **Mr. Sanjeev Sharma**. CEO and Founder, Swaayatt Robots Pvt. Limited.
  sanjeevsharma@swaayatt-robots.com