



Gaurav Bhardwaj

MD & CEO | grv09bh@gmail.com

- ▶ PaiByTwo Private Limited
- ▶ 459, AIC IIT Delhi
- ▶ contact@paibytwo.com | +91-9654256896
- ▶ DOB: March 09, 1991

Education

07/2017 - 12/2022

Ph.D.[CGPA: 8.462]

IIT Roorkee

Computer Science & Engineering • Robotics

Doctorate thesis: „Biped Robot Trajectory Planning, Simulation & Control for Non-Flat Terrains “.

07/2015 - 05/2017

M.Tech [CGPA: 9.23]

IIIT Allahabad

Information Technology • Software Engineering

Master's thesis: „Integration of Petri Net Supported Method Repository to Automatically Generated Code“.

07/2009 - 05/2013

B.Tech

J.C. Bose University of Science and Technology, YMCA

Information Technology

Bachelor's thesis: „E-Banking System using JAVA “.

Objective

To become a versatile researcher and to be associated with a progressive organization which can provide me with a dynamic work sphere to extract my inherent skills and use my aptitude to further the organization's objectives.

Work experience

Managing Director | CEO

PaiByTwo Private Limited
<https://www.paibytwo.com/>

11/2021 - present

Research Scholar | PhD student

Department of Computer Science and Engineering
 IIT Roorkee
 [Supervisors: Prof. R. Balasubramanian and Prof. N. Sukavanam]

07/2017 - 12/2022

My research is basically focused on Bipedal Robot trajectory planning along with applying novel deep learning techniques to develop robust control for the same on non flat terrains

Teaching Assistant

Robotics and Control:Theory and Practice-Rerun
 (Prof. N. Sukavanam)
 NPTEL

01/2023 - 03/2023

Teaching Assistant

Robotics and Control:Theory and Practice-Rerun
 (Prof. N. Sukavanam)
 NPTEL

01/2022 - 03/2022

Teaching Assistant

Robotics and Control:Theory and Practice-Rerun
 (Prof. N. Sukavanam)
 NPTEL

01/2021 - 03/2021

Teaching Assistant

Robotics and Control:Theory and Practice (Prof. N. Sukavanam)
 NPTEL

01/2020 - 03/2020

Teaching Assistant

Software Engineering Lab (Prof. Sudip Sanyal)
 IIIT Allahabad

07/2015 - 05/2017

Industrial Training

Project: Contact Management System using JAVA
 CMC Limited(A TATA Enterprise), New Delhi

01/2013 - 06/2013

Strengths

- Positive Attitude
- Committed to Work
- Punctual and Obedient
- Hard Working

Contact

☎ +91 9654256896

✉ grv09bh@gmail.com

www.epminusx.com/

Skill Set and Interests

- **Programming Languages:** MATLAB, Python, C, C++, Java
- **Simulation Tools:** ROS, GAZEBO, Bullet, MUJOCO, MATLAB
- Legged Robots
- Reinforcement Learning
- Deep Learning

Accomplishments

- Qualified CSIR JRF 2015 Engineering Science (All India Rank 55)
- Qualified GATE 2015
- Qualified GATE 2017

Publications

- **Gaurav Bhardwaj**, Utkarsh A. Mishra, Nagarajan Sukavanam and Balasubramanian Raman, Neural network temporal quantized Lagrange dynamics with cycloidal trajectory for a toe-foot bipedal robot to climb stairs, *Applied Intelligence (Springer)*, DOI: <https://doi.org/10.1007/s10489-022-03921-6>, 2022. **[Published, Q2, IF = 5.019]**
- **Gaurav Bhardwaj**, Nagarajan Sukavanam and Balasubramanian Raman, Fast Terminal Discrete-Time Sliding Mode Control with Fuzzy-based Impedance Modulation for Toe Foot Bipedal Robot going Upstairs, *International Journal of Control Automation and Systems (Springer)*, 2022. **[Accepted, Q2, IF = 2.964]**
- **Gaurav Bhardwaj**, Soham Dasgupta, Nagarajan Sukavanam and Balasubramanian Raman, DDPG based Control for a Flat-Foot Biped Robot on Deformable Soil, *International Conference on Dynamical Systems, Control and their Applications*, 01-03 July, 2022, Roorkee. **[Accepted]**
- **Gaurav Bhardwaj**, Soham Dasgupta, Nagarajan Sukavanam and Balasubramanian Raman, Soft Soil gait Planning and Control for Biped Robot using Deep Deterministic Policy Gradient Approach, *Advances in Robotics*, 05-08 July, 2023, IIT Ropar.
- **Gaurav Bhardwaj**, Utkarsh A. Mishra, Nagarajan Sukavanam and Balasubramanian Raman, Planning Adaptive Brachistochrone and Circular Arc Hip Trajectory for a Toe-Foot Bipedal Robot going Downstairs, *Journal of Physics: Conference Series (IOP Publishing)*, vol. 1831, no. 1, pp. 012-032 (ROAI 2020), 28-29 December, 2020, Chennai, India. **[Published]**
- **Gaurav Bhardwaj**, Ruchi Panwar, Nagarajan Sukavanam and Balasubramanian Raman, An Unsupervised Neural Network Approach for Inverse Kinematics Solution of Manipulator following Kalman Filter based Trajectory, *2019 IEEE Conference on Information and Communication Technology*, 06-08 December, 2019, Allahabad, India. **[Published]**