RADHE SHYAM SHARMA

Assistant Professor

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HIGHER ACADEMIC DETAILS

- **PhD** (Electrical Engineering)
  Institute: Indian Institute of Technology (IIT) Kanpur, India, 2020
  CPI: 9 out of 10

- **M.Tech.** (Modelling & Simulation)
  Institute: Defence Institute of Advanced Technology (DIAT) Pune, India, 2013
  Percentage: 75.25

RESEARCH INTERESTS

- Visual Servoing

- Robot Learning

- Autonomous Navigation

- Multi-Robot Systems

PUBLICATIONS

1. **Radhe Shyam Sharma**, Arindam Mondal, Laxmidhar Behera, "Tracking Control of Mobile Robots in Formation in the Presence of Disturbances," *IEEE Transactions on Industrial Informatics*, vol. 17, no. 1, pp. 110–123, 2021. PDF 🄯 Video of the Experiments ▶

2. **Radhe Shyam Sharma**, Ranjith Ravindranathan Nair, Pooja Agrawal, Laxmidhar Behera, K. S. Venkatesh, "Robust Hybrid Visual Servoing using Reinforcement Learning and Finite Time Adaptive FOSMC," *IEEE Systems Journal*, vol. 13, no. 3, pp. 3467–3478, 2018. PDF 🄯 Video of the Experiments ▶

3. **Radhe Shyam Sharma**, Santosh Shukla, Laxmidhar Behera, Venkatesh K S, "Position Based Visual Servoing of a Mobile Robot With an Automatic Extrinsic Calibration Scheme," *Robotica*, vol. 38, no. 5, pp. 831–844, 2020. PDF 🄯 Video of the Experiments ▶

4. **Radhe Shyam Sharma**, Santosh Shukla, Hamad Karki, Amit Shukla, Laxmidhar Behera, Venkatesh K S, "DMP Based Trajectory Tracking for a Nonholonomic Mobile Robot With Automatic Goal Adaptation and Obstacle Avoidance," *IEEE International Conference on Robotics and Automation* (`ICRA`), pp. 8613-8619, 2019. PDF 🄯 Video of the Experiments ▶

5. Atulya Shivam Shree, **Radhe Shyam Sharma**, Laxmidhar Behera, K. S. Venkatesh, "Position Based Visual Control of The Hovering Quadcopter," International Conference on Intelligent Human Computer Interaction, pages 15–26. Springer, 2016. PDF 🄯 Video of the Experiments ▶

AWARDS AND FELLOWSHIPS

- DAAD Postdoc-NeT-AI 4/2021 Fellow

- Travel grant by DAAD to visit several German Research Institutions

- Visiting research scholar at Khalifa University, Abu Dhabi, UAE, Oct - Nov 2018

- Received Institute fellowship for doctoral studies from Indian institute of Technology (IIT) Kanpur, India, Jan 2015 - Dec 2019

- Received GATE scholarship for Master of Technology course from MHRD, Govt of India, Aug 2011- May 2013

PROJECTS

- Capacity building for human resource development in Unmanned Aircraft System (Drone and related Technology)
  Ministry of Electronics and Information Technology, India

- A condition monitoring system with multi-agent mechanism for external non-contact smart inspection of buried oil and gas pipelines
  The Petroleum Institute (PI), Khalifa University, Abu Dhabi, UAE

- Study on personal drone benefits for driver assistance
  Renault Nissan Technology and Business Center India (RNTBCI), Chennai, India

- Robotics and Automation in Agriculture
  Ministry of Electronics and Information Technology, India

INDUSTRIAL, RESEARCH AND TEACHING EXPERIENCE

- Assistant Professor
  School of Computing and Electrical Engineering
  IIT Mandi
  From 26-07-2022 to Till Date

- Autonomy Senior Engineer
  Integrated Components and Solutions Division
  Caterpillar
  From 05-07-2021 to 25-07-2022

- Project Post-Doctoral Fellow
  IIT Kanpur, India
  From 16-04-2021 to 30-06-2021

- Project Scientist
  IIT Kanpur, India
  From 16-06-2020 to 15-04-2021

- Research Associate
  IIT Kanpur, India
  From 01-01-2020 to 31-05-2020

- Faculty
  NIT Raipur, India
  From 15-07-2013 to 31-05-2014

- Lecturer
  SGSITS Indore, India
  From 15-07-2008 to 11-08-2011

- Lecturer
  SATI Vidisha, India
  From 11-09-2007 to 14-07-2008

TUTORSHIPS

- Lab Tutor for Introduction to Electronics (ESc201A), 2018-19-II Semester, IIT Kanpur

- Theory Tutor for Introduction to Electronics (ESc201A), 2019-20-I Semester, IIT Kanpur

- Theory Tutor for Introduction to Electronics (ESc201A), 2019-20-II Semester, IIT Kanpur

PROFESSIONAL ASSOCIATIONS

- Reviewer for IEEE Robotics and Automation Letters

- Reviewer for IEEE Transactions on Mechatronics

- Reviewer for IEEE Systems Journal

- Reviewer for IEEE Transactions on Instrumentation and Measurement

- Reviewer for IEEE RO-MAN (Robot and Human Interactive Communication)

- Student member of IEEE

- Member of IEEE Robotics and Automation Society

- Visiting research scholar in the Department of Mechanical Engineering at Khalifa University, Abu Dhabi, UAE

- Speaker for GIAN (Global Initiative of Academic Networks) course on Selected Topics in Internet of Things, Jan 2018

POSITIONS OF RESPONSIBILITY

- Co-Chief Investigator, Capacity building for human resource development in UAS

- Member, School Publicity Committee

- Academic Mentor, Counselling Service

- Member, Married Students Welfare Committee

TRAININGS ATTENDED

- Training Program: - "Do Drone", *IISc Bengaluru, (Nov 2022)*

- Connected Vehicle 2022, Conference and Exhibition at *Bengaluru, (May 2022)*

- National workshop on "SVM in pattern recognition & its applications in biological sciences" at *NIT Raipur (Jan 2014)*

- Faculty training/orientation program at *SGSITS Indore (Dec 2008)*

- Major training on "Imaging systems" at *AFMC* (`Armed Forces Medical College`) *Pune (Jun-Jul 2006)*

- Minor training on "Biomedical Equipments" at *MH* (`Military Hospital`) *Gwalior (Jun-Jul 2005)*

TECHNICAL SKILLS

- Languages: MatLab, and Python

- Operating Systems: Linux, ROS (`Robot Operating System`)

- Others: PyBullet, LaTeX

- Hands-on experience with `unmanned ground` and `aerial vehicles` – Pioneer P3-DX, Guardian mobile platform, Segway RMP, Nayan, and AscTec Hummingbird.
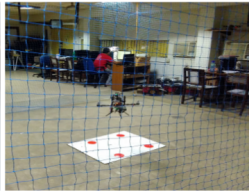
(a) Pioneer P3-DX   (b) Guardian robot   (c) Segway RMP   (d) Nayan   (e) AscTec Hummingbird

TREKKING AND CAMPING EXPERIENCE

- Gaumukh Tapovan Trek

- Dodital Trek

- NSS CAMP

INTEREST AND HOBBIES

- Adventure trekking

- Robotics

- Horse riding