### RADHE SHYAM SHARMA

WL-213, Department of Electrical Engineering, IIT Kanpur, Kanpur- 208016, UP, India

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### ACADEMIC DETAILS

• PhD (Electrical Engineering)

Institute: Indian Institute of Technology (IIT) Kanpur, India, 2020

(Date of Defense: June 15, 2020)

**CPI**: 9.0/10

• M.Tech. (Modelling & Simulation)

Institute: Defence Institute of Advanced Technology (DIAT) Pune, India, 2013

Percentage: 75.25

• **B.E.** (Biomedical Engineering)

Institute: Samrat Ashok Technological Institute (SATI) Vidisha, India, 2007

Percentage: 74.25

#### 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*, 2020. 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

- 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

• 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

#### **EXPERIENCE**

• Project Scientist

IIT Kanpur, India

From 16-06-2020 to Till Date

• 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

## TEACHING ASSISTANTSHIPS

- Signals, Systems and Networks, IIT Kanpur
- Probabilistic Mobile Robotics, IIT Kanpur
- Intelligent Systems and Control, IIT Kanpur
- Neural Networks, IIT Kanpur

## PROFESSIONAL ASSOCIATIONS

- 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

- Academic Mentor, Counselling Service, IIT Kanpur, 2015
- Advisor of Light & Decoration Committee in Techno Vision, 2008
- $\bullet$  Convener of SAC Committee In SU-2007
- Co-Convener of Audio-Visual Committee In SU-2006

### TRAININGS ATTENDED

- 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)
- $\bullet$  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, C<sup>++</sup>, Python
- Operating Systems: Linux, ROS (Robot Operating System)
- Others: LATEX, GNU Octave, R, Mathematica, ExtendSim
- 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

# REFERENCES

Prof. Laxmidhar Behera
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Indian Institute of Technology (IIT) Kanpur
Kanpur, UP, India.

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