RAVI SHARMA

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Dept. of Computer Science and Engineering
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Education

- PhD (Continuing), Indian Institute of Technology-Jodhpur, India
    - CGPA: 8.42 / 10
- Masters in Technology, 2013, Indian Institute of Technology-Kanpur, India
    - CGPA: 8.5 / 10
- Bachelors in Technology, 2010, KIIT University Bhubaneswar, India
    - CGPA: 8.61 / 10

Domains of Interest: Wireless Sensor Networks, Convex Optimization, Probability and Statistics, Linear Algebra, Geospatial Data Processing, Remote Sensing, LiDAR.

Proficiencies

Software Experience: C/C++, Python and MATLAB, Experience with ns-2/ns-3 acquired while assisting in Laboratories as TA in Computer Networking courses thrice; can be picked up at a working level, given few weeks.

Hardware Experience: Scientific grade GPS Systems by Trimble (R3, R4, R7) and Leica (SR530, GS5), Inertial Navigation System (INS, having motion, rotation and magnetic sensors), ILRIS 3D Terrestrial Laser Scanner, BLE (Bluetooth Low Energy, HM10 Module) operation with Arduino Uno R3, Mikrotik Router Board (RB493G).

Journal/Conference Papers Authored

1. R. Sharma, V. Badarla, V. Sharma, "PCOC: A Fast Sensor-Device Line of Sight Detection Algorithm for Point Cloud Representations of Indoor Environments", IEEE Communications Letters, 2020.
2. R. Sharma, V. Badarla, "Geometrical Optimization of A Novel Beacon Placement Strategy for 3D Indoor Localization", *Workshop on Green ICT for Next Generation Wireless Networks,* 2018 IEEE International Conference on Advanced Networks and Telecommunications Systems (**ANTS**).
3. R. Sharma, V. Badarla, "*Analysis of a Novel Beacon Placement Strategy for 3D Localization in Indoor Spaces",* 2019 11th International Conference on Communication Systems & Networks (**COMSNETS**).
4. R. Sharma, "Optimizing Three Dimensional Beacon Placement for Indoor Localization: PhD Forum Abstract", *17th ACM/IEEE International Conference on Information* Processing *in Sensor Networks (IPSN)*, Porto, Portugal, 2018.
5. R. Sharma, "GPS Signal Structure: A look behind the scene", 8th International Conference on Microwaves Antenna Propagation & Remote Sensing (ICMARS), Jodhpur, India, 2012.

Book Chapters Authored

1. R. Sharma, S. Sharma, "E-Governance and Web GIS," in *Concepts and Applications of Web GIS* (pp. 113-128). Commack, NY: Nova Science Publishers, Inc, 2017, ISBN: 978-1536127799
2. R. Sharma, V. Badarla, "Wireless Localization for Smart Indoor Environments," in *Internet of Things and Secure Smart Environments: Successes and Pitfalls*, Chapman & Hall/CRC Big Data Series, CRC Press, Taylor & Francis, USA, 2020, ISBN: 9780367266394.

Merit Scholarships

1. Recipient of The **Ministry of Human Resource Development** (MHRD) Govt. of India scholarship towards the M.Tech. study at IIT-Kanpur for the duration of 2011-2013.
2. Recipient of The **Ministry of Human Resource Development** (MHRD) Govt. of India scholarship towards the PhD study at IIT-Jodhpur for the duration of 2014-2019.

Research Travel Grants

1. Recipient of **Microsoft Research India Travel grant** for presenting the research in *17th ACM/IEEE International Conference on Information* Processing *in Sensor Networks (IPSN)*, Porto, Portugal, 2018.
2. Recipient of **SIGBED CPSWEEK 2018 Student Travel Grant** for presenting the research in *17th ACM/IEEE International Conference on Information* Processing *in Sensor Networks (IPSN)*, Porto, Portugal, 2018.
3. Recipient of the **IEEE COMSOC student travel grant** for presenting the research in *12th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Indore, India, 2018.
4. Recipient of the **COMSNETS student travel grant** for presenting the research in *11th International Conference on Communication Systems & Networks (COMSNETS)*, Bangalore, India, 2019.

Academic Achievements

1. 'Excellent' graded in the summer school on 'C++ Programming and Web Development' conducted by Dept. of Computer Science and Engineering, **Indian Institute of Technology-KANPUR, India, 2009**.
2. Recipient of the **Ministry of Human Resource Development** (MHRD), Govt. of India scholarship towards the Masters study at IIT-Kanpur for the duration of 2011-2013.
3. 'Excellent' graded in **ISRO-NNRMS Sponsored** training course on 'Remote Sensing & GIS Applications to Technology and advances' at IIRS, Dehradun, India (5th May-27th June, 2014).
4. Recipient of the **Ministry of Human Resource Development** (MHRD), Govt. of India scholarship towards the Doctoral study at IIT-Jodhpur for the duration of 2014-2019.

Projects/Trainings Undergone

1. **Red Hat Enterprise** (Summer, 2008)
   Objective: Design of an online chat program and mail server
   Trainings undergone:
   - Red Hat Enterprise Linux Essentials & System Administration
   - Red Hat Database (RDB147)
   - Java programming
2. **Taj Mahal Laser Scanning Project** (Summer, 2012)
   Taj Mahal is a UNESCO world heritage site. It's been claimed that its minarets are having a slight tilt. Hence in collaboration with Archaeological Survey of India (ASI), a team of five members from IIT-Kanpur (led by my then supervisor Dr. Bharat Lohani), specialized in laser scanning went to scan them in the form of a 3 dimension point cloud. Being a part of that I explored many geometrical aspects of Taj Mahal while collecting data. It was a demo project funded by UNESCO and PANASONIC. Its documentary film got premiered in India with the title 'Access 360° World Heritage: Taj Mahal' on Saturday, October 20th at 12.00 noon on National Geographic Channel.
3. **ISRO-NNRMS Sponsored** training course on 'Remote Sensing & GIS Applications to Technology and advances' (5th May-27th June, 2014).

Professional Experience

1. Worked as a 'Visiting Assistant Professor' in the department of Computer Science & Engineering at The LNM Institute of Information Technology, Jaipur, Rajasthan, India (July, 2013 – May, 2014) with the following responsibilities:

Semester	Courses Taught	Audience
Autumn, 2013	Compiler Design	Final Year Bachelors Students
Spring, 2014	Information Security & Cyber Laws	Final Year Bachelors and First Year Masters Students

Semester	Laboratory In-charge	Audience
Autumn, 2013	Computer Programming	First Year Bachelors Students
Spring, 2014	Data Structures	First Year Bachelors Students

2. Worked as a 'Senior Project Engineer' (January 1 – March 31, 2020) at the Indian Institute of Technology Kanpur, India.

Extra-Curricular

Positions of Responsibilities

1. Served as the member of **Mess Committee** during my stay in **IIT-Kanpur**, responsible for regular inspection and verification of food stock and quality along with the circulation of menu items.
2. Served as the member of the **Hospitality Committee** for the **International Workshop on Emerging Trends in Information Technology-2014**, supported by Microsoft Research and Department of Science and Technology (Govt. of Rajasthan, India)
3. Served as the Gymkhana representative of research scholars for the session 2015-16 at IIT-Jodhpur.
4. Served as the **treasurer** in the executive committee of the **IEEE-IIT Jodhpur Student Branch** for the term 2016-17.
5. Served as the **Chair** for the executive committee of the **IEEE-IIT Jodhpur Student Branch** for the term 2017-18**.**

Activities

1. Secured 91% marks in "**Sanskrit Gyan Pariksha**" (A district level competitive exam to evaluate the knowledge in Sanskrit language and General awareness) in both the years 2001 and 2002.
2. Twice Gold-medalist in Shot-put throw competition in class 11th (2003-04) and 12th (2004-05), in yearly sport competitions.
3. Got selected among the top 10 finalist of the competition titled "**Damodar Shree National Award** for Academic Excellence" that held on 2nd October 2012 to present and defend the literature work.
4. Twice winner of "KAVYANJALI" competition for poetry writing and recitation, in 'GALAXY' event at IIT-Kanpur.