Rohit Menon

PhD Candidate in Robotics
University of Bonn, Humanoid Robots Lab

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Google Scholar | ResearchGate | GitHub

Education

Ph.D. in Computer Science (Ongoing) 2022 – Present
University of Bonn *Bonn, Germany*

- Focus: Active Perception, Semantic Mapping, and Uncertainty-Aware AI for Agricultural Robotics.
- Advisor: Prof. Dr. Maren Bennewitz, Humanoid Robots Lab.

M.Sc. in Automation and Robotics 2012 – 2015
TU Dortmund University *Dortmund, Germany*

- Master's Thesis at DLR (German Aerospace Center) on Shared Autonomy for Assistive Robotics.

B.E. in Electrical Engineering 2004 – 2008
University of Mumbai (SPCE) *Mumbai, India*

- Silver Medal for academic excellence in the Bachelor's Program.

Professional Experience

Research Associate 2022 – Present
Humanoid Robots Lab, University of Bonn *Bonn, Germany*

- Leading research on autonomous fruit mapping and multi-arm manipulation in the PhenoRob Cluster of Excellence.
- Developing evidential deep learning frameworks for uncertainty-aware semantic surface mapping.

Founding Engineer & Group Lead (AI in Manipulation) 2019 – 2022
NEURA Robotics *Metzingen, Germany*

- Spearheaded the AI division focusing on industrial manipulation and human-robot engagement.
- Developed deep-learning based pick-and-place systems and multi-sensor fusion for collision avoidance.

Researcher (Robot Control) 2015 – 2019
DFKI (Robotics Innovation Center) *Bremen, Germany*

- Contributed to EU projects (Hybr-IT, TransFIT, NeTTUN) on mobile manipulation and trajectories.
- Served as DFKI Project Coordinator for the EIT Digital project iLevator (2016).

Senior Executive (Engineering & Commissioning) 2008 – 2012
Siemens Ltd *Thane, India*

- Led large-scale industrial automation projects, focusing on drive control schemes and commissioning of complex machinery.
- Developed AC/DC drive control schemes, PLC programming, and HMI designs.

Master Thesis Student 2014 – 2015
DLR - German Aerospace Center *Wessling, Germany*

- Developed shared autonomy interfaces for assistive robotic hands.

Teaching Experience

Humanoid Robotics Summer 2025
University of Bonn *Bonn, Germany*

- Redesigned core lectures on manipulation and perception.
- Managed exercise design, conducting exams, and the grading process.

Cognitive Robotics (Probabilistic Robotics) Winter 2022 – 2024
University of Bonn *Bonn, Germany*

- Acted as a stand-in lecturer for key sessions on probabilistic robotics.
- Lead TA: Designed course assignments and exams; managed grading and practical programming projects.

Honors & Awards

- **Best Poster Award**, IROS Workshop on Perception and Planning for Mobile Manipulation (2025).
- **Deutschlandstipendium**, Awarded by the German Federal Government (2013).
- **Silver Medal**, Bachelor in Electrical Engineering, SPCE, University of Mumbai (2008).
- **Ratan Tata Scholarship**, Awarded for excellence in engineering (2006 – 2008).

Selected Publications

- **Menon, R.**, et al. "Open-Vocabulary and Semantic-Aware Reasoning for Search and Retrieval of Objects in Dynamic and Concealed Spaces." *IROS Workshop on Perception and Planning for Mobile Manipulation*, 2025. (**Best Poster**)
- **Menon, R.**, Dengler, N., Pan, S., Chenchani, G.K., Bennewitz, M. "EvidMTL: Evidential Multi-Task Learning for Uncertainty-Aware Semantic Surface Mapping from Monocular RGB Images." *IROS*, 2025. [DOI]
- **Menon, R.**, Dengler, N., Bennewitz, M. "GO-VMP: Global Optimization for View Motion Planning in Fruit Mapping." *IROS*, 2025. [DOI]
- Lenz, C.*, **Menon, R.***, et al. "Hortibot: An Adaptive Multi-Arm System for Robotic Horticulture of Sweet Peppers." *IROS*, 2024.
- Marangoz, S.*, **Menon, R.***, et al. "DawnIK: Decentralized Collision-Aware Inverse Kinematics Solver for Heterogeneous Multi-Arm Systems." *IEEE Humanoids*, 2023.
- **Menon, R.**, et al. "NBV-SC: Next Best View Planning Based on Shape Completion for Fruit Mapping." *IROS*, 2023.

Professional Service

- **Reviewer:** IEEE RA-L, IJRR, ICRA, IROS, CASE, Humanoids, RSS 2026.

Public Engagement

- **Pint of Science (Bonn):** "From Pixels to Peppers: Active Perception in Robotic Agriculture" (2025).
- **WDR Bonn:** Television interview on the HortiBot system and the future of robotics (2025). [News Report]
- **ICRA@40 Live Demo:** Live demo of fruit mapping at the ICRA 40th anniversary, Rotterdam, NL (2024). [Event Link]
- **Visit of NRW State Premier Hendrik Wüst:** Showcased robotics at the Humanoid Robots Lab (2024). [News Report]
- **Interactive Robot Demonstrations:** Nacht der Technik (Science Night) and Wissenschaftsfest (Science Festival) (2024 – 2025).