

ROHIT MENON

PERSONAL DETAILS

Work Address	Humanoid Robots Lab, Rheinische Friedrich-Willhelms-Universität Bonn Friederich-Hirzebruch-Allee 8, 53115, Bonn, Germany	
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Nationality	Indian	

PROFILE

- **PhD Candidate** at the Humanoid Robots Lab, University of Bonn researching active perception, semantic mapping, and uncertainty-aware AI for agricultural robotics
- Focused on enabling autonomous systems to make informed decisions under perceptual uncertainty through semantic scene understanding
- Citations: 160 | h-index: 7 | i10-index: 7 (as of Jan. 2026)

ACADEMICS

Course/Exam	Institution	Grade	Year
PhD in Computer Science	Rheinische Friedrich-Willhelms-Universität Bonn	-	Dec. 2024 - Dec. 2026 (Expected)
MSc in Automation and Robotics	Technische Universität, Dortmund	1.2	Oct. 2012 - Mar. 2015
Bachelors in Electrical Engineering	Sardar Patel College of Engineering (SPCE), University of Mumbai, India	76%	Aug. 2004 - June 2008
Class XII, Higher Secondary Certificate (HSC) Examination	Bhavan's Junior College, Mumbai, India	89.7%	June 2002 - Mar. 2004
Class X, Secondary School Certificate (SSC) Examination	Indian Education Society (IES) Secondary School, Charkop, Mumbai, India	86.7%	June 1992 - Mar. 2002

ACHIEVEMENTS

- **Top 5 percent grade** among 2012-entry MSc in Automation and Robotics TU Dortmund cohort
- **Deutschlandstipendium** from German Federal Government for academic excellence, 2013
- **Promoted to Senior Executive** with **5/5** rating at Siemens India, 2012
- **Excellence in Commissioning** trophy at Siemens India Conference, 2011
- **Silver Medal** for Bachelor in Electrical Engineering Exam at SPCE, University of Mumbai, 2008
- **Ratan Tata Scholarship** for excellence in engineering, 2006-07 and 2007-08
- **Best Student in Science Faculty** of Bhavan's Junior College for Std XII out of 1000+ students for all round performance, 2004
- **First Rank** in Class XII HSC exam, Bhavan's Junior College, Mumbai, India, 2004
- **Second Rank** in Class X SSC exam, IES Secondary School, Mumbai, India, 2002

RESEARCH AND TEACHING EXPERIENCE

Humanoid Robots Lab, Faculty of Computer Science, University of Bonn, Bonn

Research Associate

Feb. 2022-Present

- Member of **PhenoRob Cluster of Excellence**, working on active perception for fruit mapping and manipulation
- **First** or equal co-author on 4 major publications; collaborated on 7 additional papers
- Teaching Assistant for Cognitive Robotics (WS 2022, 2023, 2024)
- **Redesigned** lectures and assignments for Humanoid Robotics lecture (SS 2025)
- Supervised 4 MSc. theses; currently supervising 2 more
- Presented interactive robot demonstrations for general public at **Bonn Nacht der Technik** 2023, **Hofgarten Wissenschaftsfest** 2024, **NRW State Premier** visit (Feb 2024), and **ICRA40** conference in Rotterdam (2024)
- Featured in a **WDR Bonn interview** during a live demonstration of the HortiBot system for horticultural robotics as part of PhenoRob outreach activities

Robotics Innovation Centre, Deutsche Forschungszentrum für Künstliche Intelligenz GmbH, (DFKI), Bremen

Researcher, Robot Control

July 2015-Oct. 2019

- Focused on motion planning, grasping, and trajectory generation for mobile and humanoid manipulators
- Contributed to EU and industry projects (Hybr-IT, TransFIT, NeTTUN, iLAADR) in HRI, teleoperation, and sensor-based manipulation
- **Project coordinator** from DFKI for EIT Digital project iLeverator, 2016
- Supervised master's thesis on multi-sensor fusion for in-hand object localization

Institute for Robotics and Mechatronics, German Aerospace Centre, (DLR), Oberpfaffenhofen

MSc Thesis Student, Shared Autonomy for Assistive Robotics

June 2014-Feb. 2015

- Developed shared autonomy scheme to **reach and grasp** objects using 4-DoF control of robotic hand arm system for disabled individuals
- Conducted and evaluated user study for verifying the efficacy of the scheme
- **Published MSc thesis at top robotics conference** (ICRA 2016), with thesis graded **1.3**

INDUSTRY EXPERIENCE

Neura Robotics GmbH, Metzingen

Founding Engineer and later Group Leader, AI for Manipulation (promoted Sept. 2021)

Nov. 2019-Jan. 2022

- Software Stack- C++ Libraries, ROS, Gazebo, Python, Communication Interfaces, Device Drivers
- First software engineer in the AI team; developed full infrastructure for AI-based robotic applications
- Developed **deep learning** based **pick-and-place** systems
 - Enabled **selective grasping** fusing **semantic segmentation** results with depth data
- Developed **human detection and collision avoidance scheme** using fusion of multiple sensors
- Conceptualised and developed **robot that plays tic-tac-toe with human**

SIEMENS LTD, Thane, India (Industry/Drive Technologies)

Senior Executive, Engineering and Commissioning

Jan 2012- Sept 2012

Executive, Engineering and Commissioning

Sept. 2009- Dec 2011

Graduate Trainee Engineer, Engineering and Commissioning

Sept. 2008-Sept. 2009

- Software Development- Preparation of AC/DC Drive Control Schemes, PLC Programming and HMI Design
- Commissioning - Tuning of control loops, machine logic optimisation and third-party communication
- Project Management- Interface with client, consultants, sales team and vendors, Technical Proposal Preparation

SKILLS

Programming Languages	C++, Python, Matlab
Frameworks	ROS, Gazebo, Orococos, Pytorch
Software Libraries	OpenCV, PCL, Eigen, NLOpt
Languages	English C1 (TOEFL:113/120), German (B1), Hindi, Malayalam

PUBLICATIONS

- Rohit Menon, Nils Dengler, Sicong Pan, Gokul Krishna Chenchani, and Maren Bennewitz. "EvidMLT: Evidential Multi-Task Learning for Uncertainty-Aware Semantic Surface Mapping from Monocular RGB Images." *arXiv preprint arXiv:2503.04441* (2025), Accepted for *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2025.
- Allen Isaac Jose, Sicong Pan, Tobias Zaenker, **Rohit Menon**, Sebastian Houben, and Maren Bennewitz. "GO-VMP: Global Optimization for View Motion Planning in Fruit Mapping." *arXiv preprint arXiv:2503.03912* (2025), Accepted for *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2025.
- Ahmed Shokry, Walid Gomaa, Tobias Zaenker, Murad Dawood, **Rohit Menon**, Shady A. Maged, Mohammed I. Awad, and Maren Bennewitz. "Context-Based Meta Reinforcement Learning for Robust and Adaptable Peg-in-Hole Assembly Tasks." *arXiv preprint arXiv:2409.16208* (2024), Accepted for *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2025.
- Benedikt Kreis, Nils Dengler, Jorge de Heuvel, **Rohit Menon**, Hamsa Perur, and Maren Bennewitz. "Compact multi-object placement using adjacency-aware reinforcement learning." In *IEEE-RAS 23rd International Conference on Humanoid Robots (Humanoids)*, 2024.
- Christian Lenz*, **Rohit Menon***, Michael Schreiber, Melvin Paul Jacob, Sven Behnke, and Maren Bennewitz. "Hortibot: An adaptive multi-arm system for robotic horticulture of sweet peppers." In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2024. (* denotes equal authorship)

- **Rohit Menon**, Tobias Zaenker, Nils Dengler, and Maren Bennewitz. "NBV-SC: Next Best View Planning based on Shape Completion for Fruit Mapping and Reconstruction." *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2023.
- Tobias Zaenker, Julius Rückin, **Rohit Menon**, Marija Popović, and Maren Bennewitz. "Graph-based View Motion Planning for Fruit Detection." In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2023.
- Nils Dengler, Sicong Pan, Vamsi Kalagaturu, **Rohit Menon**, Murad Dawood, and Maren Bennewitz. "Viewpoint Push Planning for Mapping of Unknown Confined Spaces." In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2023.
- Benedikt, Kreis, **Rohit Menon**, Bharath Kumar Adinarayan, Jorge de Heuvel, and Maren Bennewitz. "Reactive correction of object placement errors for robotic arrangement tasks." In *International Conference on Intelligent Autonomous Systems*, pp. 257-270. Cham: Springer Nature Switzerland, 2023.
- Marangoz, Salih, Tobias Zaenker, **Rohit Menon**, and Maren Bennewitz. "Fruit Mapping with Shape Completion for Autonomous Crop Monitoring", In *IEEE International Conference on Automation Science and Engineering (CASE)*, 2022.
- Rajasree PH, **Rohit Menon**, Kiriaki Athanasopulu, Ralf Kemkemer, "Generalised Image Processing Method for Quantitative Analysis of Nucleus, Cell and Focal Adhesion Clusters in Adherent Cells", In *Current Directions of Biomedical Engineering*, De Gruyter, 2021.
- Srinidhi Balasubramanian, Donald Michael McFarland, Sotiria Koloutsou-Vakakis, Kan Fu, **Rohit Menon**, Christopher Lehmann, Mark J Rood, "Effect of grid resolution and spatial representation of NH₃ emissions from fertilizer application on predictions of NH₃ and PM_{2.5} concentrations in the United States Corn Belt", In *Environmental Research Communications*, 2020.
- Jose de Gea Fernandez, Dennis Mronga, Martin Günther, Sebastian Stock, Nils Niemann, Hendrik Wiese, **Rohit Menon**, Elsa Andrea Kirchner, Stefan Stiene "Towards Contextual Robots for Collaborative Manufacturing" In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2018.
- Jörn Vogel, Katharina Hertkorn, **Rohit U. Menon**, and Máximo A. Roa. "Flexible, semi-autonomous grasping for assistive robotics." In *IEEE International Conference on Robotics and Automation (ICRA)*, 2016.

INVITED TALKS

- "Active Perception for Robotics in Agriculture", Pint of Science Festival, Bonn, Germany, May 2025
- "Active Perception", Indian Institute of Information Technology (IIIT), Kottayam, India, December 2022

EXTRA-CURRICULAR ACTIVITIES

- **Chief Editor**, College Magazine, SPCE, 2007
- **Organized a** 1-day workshop on Matlab for undergraduate engineering students, SPCE, 2008

INTERESTS/HOBBIES

- Reading, Quizzing, Traveling, Debates