ROHIT UMESHCHANDRAN 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 iLevator, 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, Gaazebo, 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, Orocos, 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. "EvidMTL: 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 PM2.5 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