# Udit Ekansh

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https://udit176.github.io/

## Education

**Purdue University**, MS in Autonomy                                                    Aug 2024 – Dec 2025
- GPA: 3.8/4.0
- **Relevant Coursework:** ECE570- Artificial Intelligence, ME597- Autonomous Systems, ECE595- Reinforcement Learning
- **Projects:**
    - Autonomous Mapping and Navigation using TurtleBot3.
    - Comparative Evaluation of Offline Reinforcement Learning Algorithms for grid-world Navigation.
    - Causal Inference as an Induced Bias in Reinforcement Learning.
    - An Integrated Planning and Control Approach to Cooperative Driving with V2V Connectivity

**MIT Art, Design, and Technology University**, India - B. Tech in Mechatronics and Automation          Jul 2019 – May 2023
Engineering
- **GPA:** 8.2/10 (97th Percentile)
- **Capstone:** Developed a ROS-based bipedal robot.

## Experience

**Research Intern: Decentralized Consensus Algorithms**, Tanya Corporation – Portland, Oregon          June 2025 – Present.
- Designed and simulated a consensus algorithm that achieved a 40% reduction in query latency compared to standard methods in decentralized storage simulations.

**Project Research Assistant**, Indian Institute of Technology, Bombay – India          July 2023 – July 2024
- Adapted and validated a 2D path-planning algorithm for 3D underwater navigation on the RexROV, achieving accurate real-time mapping and obstacle detection in simulation using sonar integration in ROS and Gazebo.

**Research Intern**, TATA Power – Bombay, India          Mar 2023 – June 2023
- Conducted a literature review of robotics applications in the electric power sector and developed internal performance metrics, enabling Tata Power to benchmark technology adoption and strategically guide future R&D priorities.

## Volunteering Experience

**Educational Ambassador**, CARE (Center for Advocacy, Response and Education), Purdue          Jun 2025 – Present
University – West Lafayette, USA
- Partnered with CARE to lead peer education sessions and outreach events focused on boundaries, accountability, and respectful conduct, fostering safer spaces and increasing engagement in violence prevention initiatives across campus.

**Cultural Exchange and Business Development Manager**, AIESEC – Pune, India          Feb 2020 – Jan 2021
- Led outreach and logistics for AIESEC's international internship and event initiatives, securing 5+ local sponsorships & ticketing partners, and managing hybrid event operations to support over 100 student participants.

## Other Experience

**Student Security Patroller (Part-Time)**, Purdue University Police Department – West Lafayette,          Sep 2024 – Present
USA
- Promoted campus safety through 50+ building checks, foot patrols, and nighttime safe-walk escorts each semester; also supported security operations for 10+ high-attendance events including football games and musicals, helping maintain a secure environment for thousands of attendees.

## Certifications and Skills

- **Robotics and Simulation:** ROS/ROS2, Gazebo, Rviz, MoveIt Motion Planning Framework, Simulink, CasADi, System Identification Toolbox
- **Programming Languages:** Python, MATLAB/Octave, C
- **Data Science and Machine Learning:** PyTorch, numpy, pandas, scikit-learn, matplotlib
- **Software Development and Utilities:** Linux/Unix, LaTeX, Microsoft Excel, git
- **Certifications:** Machine Learning - Stanford University (Coursera), MATLAB Onramp - MathWorks, What is Data Science? - IBM (Coursera)