

# Aakanksha Trivedi

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## EDUCATION

**MS- Computer Science(CGPA-4/4)** 01/2025 – present  
*Purdue University Northwest* Hammond, USA

**BE - Computer Engineering (CGPA :- 9.18/10)** 2020 – 2024  
*Institute of Engineering & Technology, Devi Ahilya University* Indore, India

## PROFESSIONAL EXPERIENCE

**Teaching Assistant** 08/2025 – Present  
*Purdue University Northwest*  
Assisted students with Java programming, debugging, and algorithm concepts. Graded assignments and exams, prepared lab materials, and supported coursework execution in collaboration with faculty.

**Research Assistant** 06/2025 – 07/2025  
*Purdue University (Professor: Shuhui Grace Yang)* Hammond, USA  
Set up research environment and ran initial experiments. Conducted literature review to define research problem for pre-thesis work.

**Research Intern** 05/2024 – 11/2024  
*Indian Institute of Technology (IIT) Indore* Indore, India  
Kernel Programming: Implemented high-performance packet processing using XDP and eBPF.  
Advanced Networking: Leveraged XDP and eBPF for custom network filtering and performance optimization.

## HACKATHONS

**SmartIndia Hackathon (SIH-2022 & 2023) Finalist** [🔗](#)  
Team Member | Recommendation System, KNN, Design  
Developed a real-time analytics dashboard for the PGRKAM website during a 36-hour hackathon. Contributed to ideation, capturing user behavior and demographics, and implemented KNN-based recommendation algorithms for personalized job suggestions.

## PROJECTS

**Improving Performance with in Kernel Pattern Matching**  
Designed and implemented an in-kernel pattern matching solution at the XDP level to detect malicious payloads in packets at the earliest networking stage. Generated real-time alerts upon detection, ensuring low-latency security enforcement.

**Student Feedback System** [🔗](#)  
*Team project, IET-DAVV*  
Developed and deployed an efficient, user-friendly feedback system for IET-DAVV, incorporating anonymous feedback and advanced analytics for detailed reporting, supporting informed decision-making for faculty and administrators.

## SKILLS

**Languages:** C/C++, Python, HTML, Java    **Operating Systems :** Linux, Windows  
**Technologies:** Kernel Programming, EBPF, XDP, Packet Processing, Machine Learning  
**Coursework:** Algorithms, Operating Systems, Computer Vision, Object Oriented Programming, Distributed Systems  
**Tools:** Github, Canva, Figma, Visual Studio Code, Google Collab, Wireshark, IDS/IPS

## ORGANISATIONS

**AiRobot** PNW Indiana  
*Vice President*

**Smart India Hackathon** Erode, India  
*Team Leader*

## AWARDS

**Graduate Research Award** 08/25/2025  
*Purdue University Northwest*

## PUBLICATIONS

**Quantum-Enhanced Clustering for Intrusion detection system in IoT devices** 08/15/2025  
*IEEE MASS 2025*