

# MANMEET SINGH DANG

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## EDUCATION

### Purdue University

*MS in Computer Science*

West Lafayette, IN

*Graduation Date: May 2027*

- **Coursework:** Artificial Intelligence, Computer Networks, Algorithms, Agentic AI, NLP, Motion Planning

### University of Wisconsin-Madison

*Bachelor of Science Majors: Computer Science & Data Science*

Madison, WI

*Graduation Date: May 2023*

- **GPA:** 3.7/4.0 | **Awards:** Dean's List (4x); Philip Desch Scholarship

- **Coursework:** Machine Learning (Grad), Blockchain, Algorithms, Operating Systems, Cryptography, AI, Computer Networks, Advanced Data Structures, Discrete Math, Multivariable Calc and Linear Algebra, Microeconomics, Biochemistry

- **Leadership:** Badger Cricket Club - Cofounder; Sikh Student Association (Outreach Chair 2022)

## WORK EXPERIENCE

### PricewaterhouseCoopers (PWC)

*Cybersecurity Analyst (Prev. Intern - June 2022 - Aug 2022)*

Washington DC

*Aug 2023 - Dec 2023*

- Designed and configured ForgeRock Identity and Access Management (IAM) solutions, including Identity Gateway and Access Manager, to streamline user authentication, single sign-on (SSO), and role-based access control (RBAC), improving system security and reducing access-related incidents by at least 50%
- Led a cybersecurity transformation project to optimize the M&A process, strengthen security protocols, and ensure regulatory compliance for a Fortune 500 company
- Performed API Testing using Insomnia and caught 18 application portal protocol errors

### DoIT @ UW-MADISON

*Enterprise Integration Intern*

Madison, WI

*June 2021 - August 2021*

- Integrated Github Actions and built CI/CD Pipeline within DoIT code repository to automatically test and build code contributions
- Work with modern DevOps Technologies and Google Cloud to integrate campus wide applications and resolve issues which reduced the campuswide storage footprint from 3.8PB to 0.8PB

### Department of Computer Sciences, UW-MADISON

*Peer Mentor for Data Structures Courses (Java Programming II)*

Madison, WI

*Jan 2021 - May 2021*

- Guided students through weekly Java programming assignments, covering Object-Oriented Design, Data Structures, and debugging, while facilitating problem-solving sessions to reinforce core concepts

## PROJECTS

### IDEAS LAB - Purdue University

*Oct 2025 - Present*

- Developing an autonomous UAV-UGV natural language collaboration system using LLMs, VLMs, and computer vision to enable navigation and goal-oriented behavior in unstructured environments, leveraging terrain for strategic movement
- Implementing intelligent control algorithms using reinforcement learning to improve UAV-UGV communication for cooperative path planning to determine the optimal UGV navigation under hostile or uncertain terrain conditions

### NLP Research Analysis

- Developed Python-based analysis framework to evaluate LLM fine-tuning methodologies, examining neural network alignment strategies, training dataset optimization, bias detection algorithms, and performance benchmarking for transformer models including GPT-4 and LLaMA

### Blind Man's Bluff

- Developed an ML Android Application which can sense the surroundings of a blind person and help to navigate through a crowded area. It uses real-time object detection to alert the user through vibrations followed by audio feedback. This group project was done for MIT Hackathon 2020

### Dynamic Memory Allocator

- Developed a custom Heap Dynamic Memory allocator in C on Ubuntu Linux Machine. It interacts with the OS to perform operations like allocation, deallocation, and coalescing to merge free memory blocks, improve memory utilization and reduce fragmentation

## SKILLS

**Technical Skills:** Python, Java, C, C++, R, Tensorflow, Pytorch, Dart, HTML, CSS, JS, AWS, Git, SQL, Postman

**Certifications:** AWS Cloud Practitioner (Sept 2023) | NVIDIA Networking | Stanford Machine Learning | Blockchain (2024)