

Tawsif Imam Nadif

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Computer Science senior at Michigan State University with a passion for building intelligent systems that align with human preferences; experienced in deep learning, computer vision, and embedding comparative human aesthetics into generative models; bridging research and real-world impact.

EDUCATION

Michigan State University, College of Engineering	East Lansing, MI
<i>Bachelor of Science in Computer Science, Minor in Business, GPA: 3.84</i>	May 2026
Dean's List: <i>All Semesters</i>	
Relevant Coursework: Intro to AI, Machine Learning, Object Oriented Programming, Computer Security	

SKILLS

Programming & Development: Python, C/C++, JavaScript, HTML/CSS, OpenCV, PyTorch, LoRA, VLMs, Assembly
Data & Infrastructure: Git, Docker, Apache2, Google Cloud Platform, Teensy, SQL, Pandas, NumPy

EXPERIENCE & LEADERSHIP

Smart Sensing Lab	East Lansing, MI
<i>Research Assistant</i>	Mar 2025 – Present
<ul style="list-style-type: none">Conducted research on autonomous systems and embedded hardware integration; supported system-level design and testing for field robotics; collaborated with a multidisciplinary team under mentorship of Dr. Daniel Morris	
Matrix Algebra with Computational Applications – MTH 314	East Lansing, MI
<i>Teaching Assistant</i>	Aug 2024 – Present
<ul style="list-style-type: none">Guided class sessions and help room discussions, assisting students with matrix algebra concepts and their applications in computational problem-solving using Python	
Algorithmic Thinking and Programming – CSE 102	East Lansing, MI
<i>Teaching Assistant</i>	Aug 2023 – May 2025
<ul style="list-style-type: none">Conducted weekly instructional labs in Python for a class of 30 students, supplemented by in-person and virtual help sessions; taught debugging techniques and delivered tailored instruction leading to improved academic outcomes	
College Algebra – MTH 103	East Lansing, MI
<i>Teaching Assistant</i>	Aug 2025 – Present
<ul style="list-style-type: none">Supported instruction for 60+ students by leading problem-solving sessions, clarifying course material, and providing individualized guidance to strengthen algebraic skills and academic performance.	
Residence Education & Housing Services	East Lansing, MI
<i>Resident Assistant</i>	Aug 2025 – Present
<ul style="list-style-type: none">Encouraged an inclusive and supportive residential community by mentoring 30+ students, organizing educational and social programs, and enforcing university policies to promote safety and well-being	

PROJECTS

Automated Tractor: Auto-Steering and Crop Row Detection	East Lansing, MI
<i>Research Project</i>	Mar 2025 – Present
<ul style="list-style-type: none">Built an auto-steering system using GNSS, IMU, Teensy, and Cytron motor driver; developed a real-time crop row detection pipeline using camera input and Convolutional Neural Networks; integrated sensing, vision, and control modules on a custom PCB for autonomous navigation in precision agriculture	
Sparty's Boots Game Project	East Lansing, MI
<i>Course Project</i>	Aug 2024 – Dec 2024
<ul style="list-style-type: none">Created Developed a 2D puzzle-based game using C++ and wxWidgets, where players control Sparty to interact with a conveyor belt system by utilizing logic gates and sensors for real-time decision-making, implementing physics-based interactions, and collaborating with a team to enhance gameplay mechanics and user engagement	
Integrating Human Aesthetics Into Vision Models	East Lansing, MI
<i>Course Project</i>	Jan 2025 – May 2025
<ul style="list-style-type: none">Developed a multi-stage aesthetic evaluation and image generation pipeline; proposed a comparative learning framework to align vision models with human preferences; fine-tuned diffusion models using LoRA and VLM-guided prompts	
Website Defacement via ARP Poisoning and DNS Spoofing	East Lansing, MI
<i>Course Project</i>	Jan 2025 – May 2025
<ul style="list-style-type: none">Simulated a network-layer attack by performing ARP poisoning and DNS spoofing using Ettercap in a controlled lab environment; redirected a victim device to a fake cse.msu.edu website hosted via Apache2 on localhost; demonstrated a successful website defacement scenario	
Professional Website	East Lansing, MI
<i>Course Project</i>	Aug 2024 – Dec 2024
<ul style="list-style-type: none">Developed a mobile-friendly professional website using HTML, CSS, and JavaScript, incorporating responsive design, interactive elements, and a functional piano application with event listeners and sound mapping	