

Sardar Mehtab Bin Murtaza

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EDUCATION

University of California, Merced
Doctor of Philosophy in Computer Science (Ph.D.)

Merced, CA
May 2029

Michigan State University
Bachelor of Science in Computer Science, GPA: 3.96

East Lansing, MI
May 2025

EXPERIENCE

Amazon | Senior Capstone Project | Detroit, Michigan

August 2024- December 2024

- Developed an app to help AWS customers to understand their security gaps and get detailed steps to resolve them.
- **React + Typescript** and **AWS Amplify** to host the app. **AWS CDK** to deploy S3 buckets, Lambda functions, etc.
- **S3 buckets** used to set up a caching system to improving cost and time efficiency.
- **AWS Bedrock** was used to generate security risk solutions.

The Mayo Clinic, Rochester, MN

July 2024-August 2025

Under Dr. Krishna Kalari's Supervision

- Trained models to predict migraine in patients using wearable watch data.
- Developed a novel pipeline using **Fast Fourier transform algorithm** and Transformer based architecture.
- Trained models to predict gene expression levels from pathological whole slides images. Worked on CNN architecture and Vision Transformers architecture models using **PyTorch and TensorFlow** framework

Spartan Hackers Club | Hackathon Chair

October 2023 – Present

- Conduct technical sessions for the largest CS Club on campus and prepare students for hackathons. Organized Code white and Code Green hackathons. Increased participation of club members in hackathons by 50%.

PROJECTS AND SKILLS

PocketDoc | CalHacks 2024 @ UC Berkeley

October 2024

- Provides accurate and safe medical information to patients about their health symptoms.
- Utilized **Fetch AI** for multi-agent communications and **Reflex** to create an interactive and intuitive user interface.
- Implemented **Groq's Large Language Model's** for processing input and responses. Llama Guard was used for ensuring safe responses. Project Link: <https://devpost.com/software/pocketdoc-edvmq4>

Interactive Halloween Sudoku Game | CSE 335 Course

August 2023-December 2023

- Developed both frontend and backend of the app. Frontend created using wxWidgets and backend using C++.
- Implemented design patterns of object-oriented programming.
- Utilized UML to design the software architecture.

Piano Application | CSE 477 Course

January 2024

- Developed an interactive piano, built using **HTML, CSS, Flask and JavaScript**. Piano can be played using key presses. An easter egg where pressing “weseyou” changes the piano into a secret image. **Docker** used for seamless deployment of app.

HACKMIT, MIT [3rd place Winner IntegratedML Challenge]

October 2022

- We developed SafeHealth, a patient medical data management and disease diagnosis system, using **Flutter** and **Firebase**. CNN based ML Models developed using **PyTorch** were deployed on **GCP** to diagnose cancer.
- Implemented hyperparameter tuning, data augmentation techniques to improve performance and accuracy

ShellHacks, FIU [Best Use of Microsoft Cloud for Social Impact]

September 2022

- Developed AI Clinic web app using Flask with RESTful interface. Models developed using TensorFlow and PyTorch to detect cancer from medical X-ray images. Google Maps API to refer to health facilities. The app was hosted on **Azure** platform. Project link: <https://devpost.com/software/the-ai-clinic>

4+ years: C++, Python, TensorFlow, 2+ year: React, CSS, JavaScript, SQL, Docker

Google Scholar : <https://scholar.google.com/citations?user=rMZs-twAAAJ&hl=en> (53 citations)

AWARDS

MSU Board of Trustees' Award – May 2025, Cole Excellence Scholarship, Jared L. Kavinsky Memorial Scholarship, 3rd place Winner IntegratedML Challenge [HackMIT 2022], Best Use Of Microsoft Cloud for Social Impact [Shell Hacks 2022], Best Hardware Hack Prize [SpartaHack VII], Honors Excellence Scholarship