

Ambati Swechcha

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Education

New Jersey Institute of Technology Master of Science in Computer Science Sept 2025

- Recipient of the Graduate Provost Scholarship

Mahindra University Bachelor of Technology in Computer Science and Engg Aug 2021 - Jun 2025

- GPA: 7.82/10
- **Coursework:** Medical Image Analysis using Deep Learning, Quantum Computing, Optimization Techniques for AI, Artificial and Computational Intelligence, Machine Learning with Python, Operating Systems, Microprocessors and Interfacing, Design and Analysis of Algorithms, Database Management Systems, Object Oriented Programming, Lean Startup, Design Thinking.

Experience

Summer Research Intern, QMatter Labs LLC. Jun 2024 - Aug 2024

- Worked on improving a hybrid quantum genetic algorithm to optimize the placement of charging stations.
- Collected and integrated data with an improved fitness function.
- Worked on developing metrics to analyse the performance of the algorithm.

Projects

Breast Cancer Classification using Multi Scale Deep Equilibrium model

- Developed a Deep Equilibrium model for classification of mammogram images and integrating XAI techniques.
- Tools Used: Python torch, tensorflow

Quantum Optimization Model

- Improved and ran a convolutional neural network to extract features from an image dataset.
- Tools Used: Python

Team Creation Website

- Built a website that aims to aid students find teammates for projects easily. Was developed as part of software engineering and development course.
- Tools Used: HTML, CSS, Bootstrap, jQuery, php, PostgreSQL

Cricket Commentary Analysis

- Extracting the interesting parts of a match from cricket commentary transcripts using Natural Language Processing techniques
- Tools Used: Python

Technologies

Computational tools C, Python, SQL, Matlab, Assembly (x86), Qiskit, AWS Bra-Ket, Java

Extra-curricular Activities

President, Qubit, the Quantum Computing Club Oct 2023 – June 2024

Completed IBM Qiskit's *Quantum Explorers*, a self-paced educational program July 2023 – February 2024
conducted as a Qiskit community event; received an **Advanced level badge**.

Completed an online course on *Quantum Machine Learning* by Qiskit and received June 2021 – July 2021
an **Excellence Certificate** for scoring above 80% in all assignments.

Completed an online two-semester course on *Introduction to Quantum Computing* by October 2020 – May 2021
The Coding School and IBM Quantum.