

# TANMAY PAJGADE

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## Education

### University of North Carolina at Charlotte

M.S. in Computer Science, GPA: 3.88/4.0

Aug 2023 – May 2025

### MIT ADT University, Pune, India

B.Tech. in Computer Science, CGPA: 8.19/10.0

Aug 2019 – May 2023

## Technical Skills

<b>Languages:</b>	Python, Java, JavaScript, SQL, C/C++, TypeScript
<b>Web Development:</b>	React.js, Next.js, Express.js, Node.js, Angular, Flask, Django, FastAPI, REST APIs, Bootstrap, Three.js
<b>Machine Learning:</b>	TensorFlow, Keras, PyTorch, OpenCV, Scikit-learn, Pandas, NumPy, Matplotlib, SciPy, Seaborn, TorchIO, Nibabel, FAISS
<b>Cloud &amp; Tools:</b>	AWS, GCP, Firebase, Docker, Git, GitHub, Postman, LangChain, Linux
<b>Databases:</b>	MySQL, Firebase, MongoDB, Pinecone, PostgreSQL

## Achievements

- **Winner:** ShellHacks Best First-Time Hackers
- **2nd place:** Lucid Programming Competition
- **IEEE Paper:** Comparative Analysis of Tuberculosis Detection (<https://ieeexplore.ieee.org/document/10112352>)

## Experience

### Research Developer, University of North Carolina at Charlotte

Jan 2025 – Present

- Developed an interactive system using BAMB (Bidirectional Autoregressive Motion Model) to generate human motion from text descriptions and visualize it in real time within a Next.js and Three.js platform.
- Added a feature to generate customized avatars based on user-provided descriptions, leveraging SMPL-X mesh to create realistic characters that perform the described motion.
- Currently building a multi-modal AI that takes audio, video, and images as input to generate a 3D avatar performing the same movements, expanding human-motion synthesis capabilities.

### Software Developer Intern, Rethink Ledgers

Jan 2025 – Present

- Developing an AI assistant for hotels, events, and businesses, automating customer interactions via WhatsApp and phone calls using ElizaOS, with a no-code setup for easy configuration.
- Using Docker on GCP VMs for easy deployment and consistent library setup.

### Research and Development Intern, Anytime Anywhere Healthtech

Dec 2022 – May 2023

- Trained a ResNet-50 3D CNN model on chest CT scan dataset of 18,000 patients, achieving a classification accuracy of 92%.
- Implemented advanced preprocessing with TorchIO and Skimage for bone tissue segmentation, reducing data size by 75% and boosting model performance.
- Developed a pipeline to detect lung regions, assess infection location, and route relevant CT scans to disease-specific models, reducing time complexity by 30%.

### Graduate Teaching Assistant, University of North Carolina at Charlotte

Jan 2024 – Dec 2024

- Created instructional content for 100+ students, increasing participation by 15%.

## Projects

### Med-Memory

Sept 2024

- Designed Med-Memory using Next.js, Tailwind, Express.js, and Firebase, developing a real-time healthcare dashboard for patient data, which earned the Best First-Time Hackers award at ShellHacks (Florida's largest hackathon).
- Integrated Qwen 2.5 LLM via Ollama using Streamlit, allowing doctors to efficiently access patient history and allergy details through natural language queries.
- Built an interactive analytics dashboard combining pie charts for medications and line plots for blood attributes, enabling doctors to derive instant, data-driven insights for improved decision making.

### FlowGenie

Oct 2024

- Created FlowGenie, a tool that takes audio and text inputs to generate diagrams, streamlining flowchart creation with automated, real-time updates using Next.js, Excalidraw, and ChatGPT-4 mini API.
- Crafted a chatbot using OpenAI API to generate JSON with Mermaid code, implementing an algorithm that smartly positions new elements or entire diagrams with auto-assigned coordinates and arrows for seamless updates.