# Charan Vardham

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## EDUCATION

**Case Western University**
Cleveland, OH
*Bachelor of Science in Computer Science, Minor in Math*
*Aug. 2024 – May 2027*

**Relevant Courses**

*Intro to Data Structures, Discrete Mathematics , Programming in Java, Algorithms, Computer Security, Linear Algebra*

## EXPERIENCE

**Undergraduate Student Researcher**
Aug 2025 – Present
*Case Western Reserve University*
*Cleveland, OH*

- Applied deep learning methods to generate CT scan images with varying reconstruction kernels, enabling analysis without direct access to raw imaging data

**Freshman Outreach Representative**
Aug 2024 - Present
*Case Western Reserve University*
*Cleveland, OH*

- Designed and implemented a Node.js nutrition app, providing meal recommendations based on dietary intake and fitness goals.
- Coordinated outreach efforts for the largest CS club on campus, encaging incoming students through weekly meetings, workshops and social events.

**AI/ML Intern**
May 2025 - Aug 2025
*IQVIA*
*Remote*

- Built a RAG-based medical chatbot with a FastAPI backend and Next.js frontend, enabling users to query uploaded medical PDFs with chat history stored in MongoDB
- Worked on the backend team for a voice-enabled chatbot using NVIDIA Riva, implementing API methods to integrate real-time STT/TTS with an LLM for natural voice interactions

**Researcher**
Nov 2024 - May 2025
*CWRU Quants*
*Cleveland, OH*

- Extracted and engineered features from earnings call transcripts by applying NLP techniques such as TF-IDF vectorization and readability metrics (e.g., Flesch Reading Ease).

## PROJECTS

**CycleGAN Framework** | *Pytorch, Matplotlib, Pandas*
August 2025 - September 2025

- Developed a CycleGAN framework capable of translating images between horses and zebras without paired training data.
- Implemented custom data loading, generator-discriminator architecture, and training loop to achieve stable adversarial training

**Streamlit-GenAI App** | *Streamlit, Python, Tavily API, Open-source LLMs*
May 2025 - June 2025

- Built a Streamlit GenAI app to scrape websites and answer user queries using LLMs with turn-based chat history.
- Integrated Tavily API, open-source LLMs, and a dashboard for search analytics — no LangChain used.

## TECHNICAL SKILLS

**Languages**: Java, Python, SQL (Postgres), JavaScript, HTML/CSS, R
**Frameworks**: React, Node.js, Next.js, Material-UI, FastAPI
**Developer Tools**: Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ
**Libraries**: Pandas, NumPy, Matplotlib, Scikit-Learn, PyTorch, TensorFlow