Ritom Sen

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EDUCATION

University of Michigan - Ann Arbor *Expected Graduation: May 2025*

BS Computer Science, Minor in Mathematics, Minor in Music | GPA: 3.709/4.0

- **Relevant Coursework:** Data Structures and Algorithms, Object Oriented Programming, Human-Centered Software Design and Development, Machine Learning, Web Systems, Large Language Models, Music and AI, Distributed Systems
- **Skills:** C++, Python, Go, Flask, Django, Git, HTML, Firebase, Flutter, AWS, Node, React, Jenkins, Next.js, SQL
- **Organizations:** Alpha Kappa Psi Business Fraternity, Entrepreneurial Power Hour, Michigan Data Science Team, V1

EXPERIENCE

Google DeepMind **Mountain View, CA**

Software Engineer *November. 2025 – Present*

- Developing Agents on the Path to AGI team.

Youtube (Google) **San Bruno, CA**

Software Engineer *June. 2025 – November 2025*

- Part of the InnerTube Core team which helps manage and develop critical pieces of infra including the routing gateway that every YouTube request hits and the server that serves metadata used to watch videos, listen to music, and watch TV
- Working on developing streaming infrastructure which allows backend servers to chunk their responses and stream data that is important to users first, which decreases perceived latency to clients and allows better GenAI response serving

Capital One **Chicago, IL**

Software Engineering Intern *June. 2024 – August. 2024*

- Collaborated with intern team to create a full-stack internal debugging tool leveraging a Go backend, React typescript frontend, internal APIs, and AWS, to help with end-to-end testing for a new decision platform for credit card applications
- Distributed product to over 50 software engineers who actively used our product to help debug downstream API output as well as to validate over 406 credit card application test cases in end to end testing, saving over 33 percent of time per case

Capital One **McLean, VA**

Software Engineering Intern *June 2023 – August 2023*

- Engineered a Slack bot using Python, AWS Fargate, and TensorFlow that streamlined Data Steward tasks through NLP-driven QA and automated metric reporting; managed the full development lifecycle from internal API integration to presenting progress reports to senior management and stakeholders.

JBR Sports Organization LLC **Ann Arbor, MI**

Co-Founder *January 2021 – November 2023*

- Founded JBR Sports, a company that creates a luxury experience in recreational sports or esports tournaments targeted at college students, developing a social reach of over 10,000 people in the Ann Arbor, Saline, and Brighton area
- Created The Champions League, a yearly basketball league which hosted teenagers and adults in a summer-long tournament, including weekly videography and social media coverage while hosting several smaller basketball and volleyball tournaments among the Umich community, grossing $30,000+ in revenue and 400+ unique participants over two years

PROJECTS

LLM Based Audio Recommendation System

- Created an LLM based song recommendation system that uses a parallel tournament ranking algorithm, and a genetic algorithm to help find song recommendations based on a one's listening history, surroundings, and location, utilizing LLMs to understand much greater context for personalization, and to create a "smarter" smart shuffle

Recreating LlaVa for Emergency Landing Use Cases

- Recreated the "Visual Instruction Tuning" paper which involved coding from scratch and training a Llama model and visual encoder using Umich GPUs and using GPT-4o to evaluate our Llava implementation using the COCO and Skyview datasets to determine LLaVa's ability to identify emergency landing spots from aerial images.

Samply - Audio Sample identifier

- Developed a web app that identifies songs from audio snippets and uses web scraping techniques to output other songs that are sampled in the identified song; helpful for producers wanting to quickly find interesting samples to work with

ADDITIONAL

- Neo Scholar Finalist
- Achieved superior rating from the National Federation of Music Clubs and recorded a studio album of concert piano including several Chopin nocturnes, waltzes, and the Fantaisie Impromptu
- Passionate about social impact and created the social justice club Students Against Racism in high school which educated over 200 elementary students on diverse perspectives and implicit biases through children's books and active lessons
- Interested in traveling, making music, poetry, playing and watching soccer, philosophy, and chess