Jinay Jain

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EXPERIENCE

Software Engineer   July 2023 – Present
Software Engineering Intern   June 2022 – Aug. 2022
Virtu Financial (high-frequency trading) | New York City, NY

- Developing distributed microservices to support new asset classes on the industry-leading trading software
- Using garbage-free, low-latency programming styles in **Java** to maintain high performance
- Improved reliability and monitoring of trading system that handles **30%** of all US retail trading

Software Engineer   Sept. 2022 – May 2023
University of Delaware, NASA Turbulence Team | Newark, DE

- Developed an experiment automation framework in **Rust** for NASA-funded research
- Prioritized robustness for multi-month deployment on the International Space Station

Machine Learning Intern   June 2021 – Aug. 2021
Matic Robots | Palo Alto, CA

- Created robotic data collection pipeline to train self-supervised models and evaluate SLAM algorithms
- Implemented **Rust** concurrency patterns to deliver a **400% speedup** in 4K video and keypoint recording

PROJECTS

Self-Driving 2D Racecar   Python, PyTorch, OpenCV, OpenAI Gym
- Trained a convolutional neural network to play a racing game through **reinforcement learning**
- Implemented proximal-policy optimization to achieve human-level performance (demo)

Cadenza – AI-generated piano performances   Python, PyTorch, PyTorch Lightning
- Trained a transformer to generate classical piano music, compared against LSTM performance (demo)
- Implemented transformer with multi-head relative attention from scratch in **PyTorch**

Eddy – Mind mapping at the speed of thought   Python, FastAPI, React, OpenAI API (GPT, Whisper)
- Created a voice-based application to record and organize your thoughts in realtime
- Used embedding cosine similarity for automatic grouping and linking of related ideas

HONORS/AWARDS

Best Natural Language Hack, TreeHacks – 1st prize among 1,600 participants at Stanford's hackathon   2023
Best Audio Hack, NYC Generative AI Hackathon   2023
Neo Scholar – selected to join a community of the top CS students in the country   2022
U.S.A. Computing Olympiad, Gold Division   2019

EDUCATION

University of Delaware | B.S. in Computer Science, Honors (GPA: 4.0)   Sept. 2020 – May 2023
- Distinguished Scholar (top 100 of 30,000 applicants)
- **Clubs/Activities:** Association for Computing Machinery (President), Kamaal Bollywood Dance Team
- **Relevant Coursework:** Data Structures, Algorithms, Machine Learning, Robotics, Data Mining, Parallel Computing, Linear Algebra, Calculus III. Graduate-Level: Computer Vision, Artificial Intelligence

SKILLS

Languages: Python, C++, Rust, Java, HTML, CSS, JavaScript, TypeScript, SQL
Tools/Libraries: PyTorch, OpenCV, TensorFlow, React.js, Next.js, Git, Docker, Google Cloud