ISHAAN GUPTA

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https://ishaang-1.github.io/portfolio/

SUMMARY

Highly motivated computer science graduate with a Bachelor's degree in Computer Science. Proficient in programming skills in languages such as Python, Java, and C++ as well as in software development methodologies and tools, like Agile and Git. Seeking opportunities to apply my knowledge and experience to contribute to cutting-edge technology developments in a dynamic and collaborative environment.

EDUCATION

Bachelor of Science in Computer Science — **University of Minnesota, Twin Cities**
College of Science and Engineering — *September 2021 – December 2023*

- **Major**: Computer Science, **Minor**: Mathematics
- **GPA: 3.93 / 4.00**.
- University Honors Student; Dean's List throughout college

Course Work:

- Algorithms and Data Structures
- Regression & Statistical Computing
- Machine Architecture and Organization
- Operating Systems
- Cryptology
- Artificial Intelligence
- Advanced Programming Principles
- NLP (Natural Language Processing)
- Optimization for Machine Learning

SKILLS

Programming Languages: Java, Python, C#, C, Ocaml, Julia, R, Assembly, JavaScript, C++

Technical Skills: Experience in Unity, VSCode, GitHub, Perforce, Jira, Intellij, Node.js, Heroku, MongoDB, Docker, Agile Methodology, React, Keras, Pytorch, OpenAI, Angular.js

EXPERIENCE

Software/Firmware Developer Intern, Seagate Technology, Shakopee, MN *May 2023 – December 2023*

- Responsibilities included design, development and integration of embedded code onto Seagate drives.
- Interacted with customers such as Google, Microsoft, and Meta to analyze and resolve failures and optimize performance during product qualifications.
- Developed software and firmware tools that generate production analytics and customer reports, using C and Python. This tool helped reduce issue resolution time by 10%.
- Used Agile/Scrum methodology and performed within a team of 10 senior firmware engineers.

LLM and NLP Researcher, U of MN, Minneapolis, MN *December 2022 – December 2023*

- Worked with a Ph.D. student in U of MN's NLP (Natural Language Processing) Group under the guidance of Professor Dongyeop Kang.
- Researched in Collaborative-NLP systems between humans and machines, and developed a full-stack web-based prototype system that collects and models eye-tracking data using JavaScript behavioral framework (jsPsych), Python, PHP, Node.js, Heroku and MongoDB.
- Researched ways to allow Large Language Models, like ChatGPT, to analyze and build conclusions from graphical data using Pytorch and OpenAI API.

PUBLICATIONS

- Understanding graphs with Large Language Models - Which Modality to use – text, motif, or image? - Debarati Das, Ishaan Gupta, Jaideep Srivastava, and Dongyeop Kang. 2023.

PROJECTS

Reinforcement Learning DOOM AI

- Reinforcement Learning Model developed using TensorFlow, OpenAI Gym and VizDoom's API. Model is able to reliably complete a variety of levels and game modes in DOOM 1993.
- The Reinforcement Learning model employs Proximal Policy Optimizations and Computer Vision to dynamically and robustly train and beat DOOM levels.

Unity Melee Fighter Game

- Created a 2D Fighter Game. Code Development done in C# using Unity API.
- Implemented fluid sprite animations, character control, enemy AI and optimized A* pathing with special combat effects (such as knockback, shield blocking, parrying, etc.)