PREET MISTRY

Software Developer

linkedin.com/in/preet-mistry github.com/pmistry9597 Toronto, Ontario

EXPERIENCE

Deep Learning Researcher
MSRG - University of Toronto
May 2023 – Feb 2024

- Pioneered a Graph Neural Network (GNN) architecture for molecular bond strength prediction, rivalling existing literature benchmarks with an MAE score of 0.50
- Conducted analysis of modern deep learning methodologies (e.g. architectures, activations), implementing modifications that significantly improved model accuracy
- Meticulously optimized training and hyperparameter tuning routines, ensuring seamless execution in distributed computing environments
- Performed in-depth examination of molecular structures to ascertain model limitations and ultimately refine the performance of our GNN model

Full Stack Developer
Ultimate Kronos Group
September 2021 – August 2022

- Successfully delivered a highly secure web application for client management and provisions, enhancing administration efficiency and mitigating vulnerabilities
- Conceptualized a responsive frontend that minimized user error during critical service changes using TypeScript/Angular
- Collaborated with a cross-functional team to design and rigorously test a Java-based containerized backend, reducing potential security risks
- Integrated the web application into CI/CD environment, utilizing Docker and Kubernetes to ensure streamlined deployment

Software Developer and Engagement Associate
STEM Powering
July 2020 – September 2020

- Designed and developed an interactive space exploration game that implemented physical modelling (Kepler's equations) to accurately simulate orbital trajectories
- Formulated a circuit simulator game that leveraged circuit theory and linear algebra to provide a realistic, immersive learning experience for students

PROJECTS

Ray Tracing Renderer
July 2024 – August 2024

- Developed a high-performance ray tracing renderer in Rust, utilizing Monte-Carlo unidirectional path tracing algorithm to produce extremely realistic, physically-based images
- Optimized rendering using advanced acceleration structures and parallelism techniques, resulting in significant performance improvements and enabling rapid rendering of complex scenes
- Applied research-driven optimizations from academic resources to inform the development of efficient algorithms, ensuring a balance between image quality and computational efficiency

PROGRAMMING LANGUAGES

Python | Java | Javascript | HTML | CSS | SQL | C++ | C# | Rust | Lua

TOOLS AND FRAMEWORKS

Linux | AWS | NodeJS | React | Angular | RESTful API | Spring | CI/CD | Kubernetes | Docker | PyTorch | Keras | Ray | NumPy | Scikit-learn | Pandas | MATLAB

EDUCATION

Bachelor of Applied Science (B.A.Sc) Computer Engineering
University of Toronto
September 2018 – May 2024

GPA 3.21

ACHIEVEMENTS

Dean's List - First Year
University of Toronto
September 2018 – April 2019

Completed first year with a GPA above 3.7

EXTRACURRICULARS

UTRA - Autonomous Rover Team
September 2022 – June 2024

Robot operating system + CV Developer

Iron Dragons - Dragon Boating Team
September 2023 – August 2024

Competitive team roster athelete

INTERESTS

Piano | Jiu-Jitsu | Calisthenics | Dragon Boating | Running | Astronomy | Metal Crafting