Gaurav Poona

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Summary of Skills

- Coordinated tasks and fostered collaboration in team projects and lab volunteer work, ensuring efficient workflow and positive team dynamics
- Addressed challenges in coursework and independent projects by conducting thorough analyses and implementing effective solutions
- Applied technical experience working with the latest development frameworks, libraries, and technologies
- Technical skills: Python, Java, Kotlin, JavaScript, HTML/CSS, React, Git, Django, PostgreSQL, Docker

Education

HBSc. in Computer Science and Mathematics *University of Toronto* *September 2020 - April 2024*
Relevant coursework: Software design, Web programming, Intro to databases, Software tools and systems programming, Algorithm design and analysis, Data structures, Intro to software engineering

Projects

Decidophobia

Technologies Used: Django, REST APIs, Next.js, HTML/CSS, Jira, PostgreSQL, Docker

- Spearheaded the design and development life-cycle of an online shopping aggregator website allowing users to browse and compare products from multiple sources, thus simplifying the shopping experience
- Led Agile development with stand-ups, sprint planning, and retrospectives, using Jira for project tracking and task management to enhance efficiency and team communication
- Developed a neural collaborative filtering based recommendation system, leveraging machine learning to analyze user behavior and preferences in test environments, designed to alert users about price drops and sales on products
- Engineered and integrated custom permissions to prevent misuse of APIs and mitigate security risks, significantly reducing potential security vulnerabilities identified during development

Neural Net

Technologies Used: Python, NumPy, Pandas, Matplotlib

- Researched and developed a neural network framework from scratch in order to improve understanding of deep neural networks
- Implemented stochastic and mini-batch descent, resulting in a 50% increase in test accuracy on the MNIST dataset
- Implemented and utilized optimizers such as momentum, RMSProp, and Adam optimizer, resulting in a test accuracy increase of over 60% on the MNIST dataset
- Trained and tested neural networks on various multi-class and binary classification problems, with an average test accuracy exceeding 90% across all problems

SmarTrack (Deerhacks Hackathon)

Technologies Used: Python, OpenCV, YOLO, Flask

- Collaborated in a team of four on a computer vision project to detect, track, and record packages moving through a dynamic warehouse setting
- Swiftly learned and leveraged new technologies like YoloV8 object detection model and DeepSort tracking algorithm to improve package detection and tracking
- Created custom dataset consisting of images of package boxes and further fine-tuned model on this custom dataset to increase package detection accuracy by over 20%

Volunteer Experience

Intelligent Adaptive Interventions (IAI) Lab at UofT *September 2023 - December 2023*

- Collaborated with graduate students on their research, providing technical and administrative support
- Created and optimized large language models (LLMs) to study how LLMs explore and generate responses
- Recorded and maintained organized records of meeting, future plans, and progress