ANKUR PANDEY

+1 (905) 481-3245 | pandea23@mcmaster.ca | portfolio | linkedin.com/in/pankur216 | github.com/scythemenace

EDUCATION

McMaster University — Hamilton, ON
Bachelor of Applied Sciences in Computer Science — *Sep. 2022 – Present*
Relevant Coursework: Data Structures and Algorithms, Intro to Software Development, Development Basics, Intro to Software Using Web Programming, Databases, Algorithms and Software Design, Automata and Computability, Computer Architecture, Concurrent Systems

EXPERIENCE

Front End Developer — January 2023 – August 2023
Elson Dental Office — *Markham, ON*
- Transformed Elson Dental Office's digital presence with a customized website.
- Attracted new clients and enhanced engagement with existing ones through a user-friendly booking platform.
- Demonstrated proficiency in digital solutions to improve client experience and operational efficiency.

PROJECTS

Float | *React, Node.js, MongoDB, TailwindCSS* — Nov 2024
- Built a secure and user-friendly banking web application simulator with features like user search, money transfers, and dynamic profile updates.
- Designed and implemented a custom authentication system using JWT and bcrypt to ensure secure user sessions.
- Developed atomic fund transfer functionality using MongoDB's transactional capabilities, ensuring data consistency and reliability during operations.
- Integrated persistent login sessions for seamless user experience and optimized performance with debounced input handling.
- Designed a responsive and clean user interface using TailwindCSS, adhering to modern design principles and development best practices.

Sarcasm Detection | *Python, PRAW, scikit-learn, pandas, matplotlib* — January - March 2025
- Engineered a **natural language processing** (NLP) model to detect sarcasm, collecting and preprocessing data from Reddit subreddits (e.g., r/nottheonion, r/clevercomebacks) using PRAW API and Python programming.
- Managed data annotation process, coordinating peer annotations on a 15% overlapping dataset, calculating user agreement, and resolving conflicts with third-party validation.
- Implemented machine learning model training with **logistic regression**, establishing baselines (majority: 0.7551, random: 0.4898) and achieving validation accuracy of 0.6939 and test accuracy of 0.6449, addressing data imbalance.
- Performed data analysis and visualization using pandas and matplotlib, organized project files, and documented workflows in a GitHub repository for reproducibility and collaboration.

EXTRA CURRICULARS

HackWestern Participant — November 2024
University of Western Ontario — *London, ON*
Vinculum | *React, Node.js, WebSockets, WebRTC, Pixi.js*
- Developed a real-time collaborative web application that supports multiple users interacting in a shared virtual environment with synchronized movements using WebSockets.
- Integrated peer-to-peer voice chat functionality using WebRTC, enabling real-time communication between users.
- Designed and implemented proximity-based interaction logic to manage efficient event handling and future scalability for spatial audio features.
- Built a dynamic 2D virtual environment rendered using Pixi.js, providing a responsive and immersive user experience.
- Established a modular and scalable backend architecture with Express and Socket.IO, facilitating efficient real-time data handling and seamless synchronization between clients.

TECHNICAL SKILLS

Languages: C/C++, Python, JavaScript, TypeScript, Java, Dart, Haskell, SQL, HTML/CSS
Frameworks: React, Node.js, Express.js, Tailwind, Bootstrap, Next.js, Flutter
Developer Tools/Technologies: Git, Neovim, Jenkins, Docker, Jira, Postgres, MongoDB, Firebase, Linux, VS Code, Eclipse
Libraries: Mongoose, Recoil, NumPy, TensorFlow, PyTorch

RELEVANT CERTIFICATIONS

Supervised Machine Learning: Regression and Classification | DeepLearning.AI — *July 2023*

Advanced Learning Algorithms | DeepLearning.AI — *August 2023*