Simon Hunter

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Education

University of Toronto Toronto, ON
Honors Bachelor of Science in Computer Science *Sept. 2022*

Technical Skills

Languages: Java, Python, C / C++, C#, SQL, JavaScript, HTML / CSS, R, Ruby
Frameworks: React, Node.js, Express.js, FastAPI, JUnit, WordPress, Shopify
Developer Tools: Git, Slack, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, Obsidian, AWS/Azure, Figma
Libraries: NumPy, OpenCV, pandas, PyTorch, Pytest, Unity, ggplot2, JavaFX, Flask

Projects

Accessible Adventure Game | *JavaFX, Java, Git, IntelliJ, Agile/Scrum, UML* Sep. 2023 - Jan. 2024

- Spearheaded an adventure game prioritizing accessibility for over 200 visually and hearing-impaired users.
- Implemented 3 key design patterns (Observer, Strategy, Factory) to ensure modularity and scalability.
- Created UML diagrams to plan architecture and collaborated using Agile (Scrum) methodologies.
- Engineered intuitive UI/UX with JavaFX to accommodate diverse accessibility needs.
- Collaborated with a team of 8 developers using Git for version control, managing feature branches, pull requests, and resolving merge conflicts.

AI-Powered Workout Assistant | *OpenCV, PyGame, Python, Motion Analysis* June 2024 – Aug. 2024

- Developed an AI-driven fitness assistant using OpenCV and Mediapipe, achieving 30 FPS real-time pose tracking for dynamic form correction.
- Tracked 33 body landmarks and calculated joint angles in real time using Mediapipe's Pose library.
- Processed 1,000+ frames per session with OpenCV, overlaying progress bars, repetition counters, and joint-angle visualizations.
- Designed a motion-analysis algorithm to monitor 100% completion thresholds for exercises like squats and push-ups.

Taxi Dispatch Simulation | *Python, PyGame, Event-Driven Design* Nov. 2022 – Jan. 2023

- Engineered a taxi dispatch simulation application in Python using Pygame for real-time tracking and visualization, achieving optimized dispatching for a fleet of taxis and riders through dictionaries and lists for efficient data storage.
- Designed Rider and Driver objects with attributes like location, patience, and speed to model real-world decision-making, enabling dynamic prioritization of ride assignments based on proximity and demand.
- Built a Dispatcher class to manage available drivers and waiting riders, triggering events for ride requests, pickups, and drop-offs, which reduced simulated idle time by 40%.
- Implemented an Event class to automate simulation progression, handling over 100+ concurrent ride cycles from start to completion with Pygame-driven status updates.

Relevant Experience

Robotics Instructor April 2024 – Sept. 2024
Exceed Robotics *Mississauga, ON*

- Designed and delivered project-based learning modules in Python, Arduino, circuit design, and CAD (Fusion 360) for 100+ students aged 6–18, fostering hands-on experience in embedded systems and robotics prototyping.
- Taught robotics concepts through VEX IQ and LEGO Mindstorms, integrating sensor integration and motor control to solve real-world problems, resulting in a 95% student engagement rate.
- Mentored a VEX IQ robotics team to 1st-place finishes in 3 regional competitions by optimizing code efficiency (Python/C++) and refining mechanical designs in Fusion 360.
- Cultivated a dynamic learning environment using Agile-inspired sprints, encouraging creativity and iterative problem-solving across diverse age groups, improving teamwork outcomes by 40%.
- Built a classroom dashboard using React/Flask to track student progress, deployed via Docker for seamless access.