Matthew Berania

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Technical Skills

Languages: Prolog, Python, Java, JavaScript, HTML, CSS, SQL, Rust, C, Haskell
Tools & Frameworks: Git, Bash, Linux/Unix, Visual Studio, GitHub, Eclipse, Oracle
Development & Testing: Strong understanding of SDLC processes and familiarity with Agile, Waterfall, and Scrum.

Projects

ASL-to-English Translator | *MattBerania.github.io/ASL-TO-English-Translator/* Oct. 2024

- Developing an intuitive software application leveraging computer vision to translate American Sign Language (ASL) movements into English text in real time for seamless, accurate, and efficient communication.
- Integrating a text-to-speech feature for real-time communication between deaf/mute individuals and English speakers, allowing for fast, accurate, reliable, and seamless spoken translations.
- Addressing challenges such as recognizing dynamic hand shapes and motions, ensuring low latency, and maintaining high translation accuracy across different devices and environments.
- Implemented with a team of 4 using Python, TensorFlow, JavaScript, Flask, OpenCV, Mediapipe, pyttsx3
- Developed in a scrum-based approach, running in two-week sprints with retrospectives, and compiled bug reports.
- Implemented regressive testing and data-driven comparison to ensure accuracy and verification.

Boggle | *github.com/mattberania/boggle-haskell* April. 2024

- Developed a Boggle word solver using Depth-First Search (DFS), designing a recursive algorithm with backtracking to explore all word combinations efficiently on a 2D board while tracking visited cells.
- Implemented using both Rust and Haskell separately

Music Player simulator | *github.com/MattBerania/Music-Player-Simulator* April. 2023

- Created a complete audio library that simulates the interface of a simple media player.
- Implemented download, play, delete, sort and search functions within an audio library and a simulated audio store.
- Developed understanding of object-oriented (OOP) principles including polymorphism, inheritance, classes, etc.
- Implemented using Java

Education

Toronto Metropolitan University *(Formerly Ryerson University)* Graduation Date: Apr. 2027
B.Sc in Computer Science *Toronto, ON*

- Awards: Entrance Scholarship (95%+)
- Relevant Courses: Computer Security, Object-Oriented Programming, Databases, Data Structures and Algorithms, Computer Vision, Artificial Intelligence, Software Engineering, Web Systems Development, Artificial Intelligence.

Leadership Experience

Vice-President 2024 – Present
TMU Chinese Student Association *Toronto, ON*

- Co-led 50+ students across six departments to ideate and execute events to engage the student community.
- Assisted in hiring a team of six executives and delegated project deliverables over a one-year period, achieving 50K+ digital impressions and generating $100K in gross revenue through events.
- Spearheaded a promotional plan to optimize a seamless scrolling user experience on digital media, ultimately boosting user engagement by 300% and achieving 30K+ views across social media platforms.

Third Year Rep Deputy 2022-Present
Computer Science Course Union *Toronto, ON*

- Represented and voiced concerns for 500+ first-year computer science majors academically, enhancing student responsiveness
- Supported the Undergraduate Program Director in addressing academic issues and assisting students with their needs
- Coordinated and executed large-scale events, including a frosh event for over 600 students and educational sessions, such as our Data Science crash course.