Brandon Arai

Email: [Available upon request] | Phone: [Available upon request] | Canada | Personal Website | Github

Technical Skills

- Languages: C#, HTML, CSS, Javascript, Java, Python
- Applications: IntelliJ, Visual Studio, Pycharm
- Operating Systems: Windows, Linux

Technical Project

Geomon - Github **-** Website   Oct - Dec 2025
CMPT 362 - Computational Data Science, SFU

- Developed our own "Pokemon Go" mobile application called "Geomon" with a software team of 4.
- Integrated Google API, which allows players to battle and catch monsters in real time on a rendered map with friends.
- Constructed offline features through local room database and sync logic for low-latency retrieval.
- Applied core database concepts (data modeling, CRUD operations, query filtering, and consistency management) using Firebase, demonstrating transferable understanding of relational databases such as MS SQL and MySQL for Entity Attribute Dataset.
- Enabled multi-user, location-aware interactions by combining Firebase authentication and real-time synchronization with Google Maps SDK layers.

Cyber Barrage - GitHub - Itch.io   Feb - Jun 2025

- Independently published a 2D shooter-platformer browser and downloadable game using C# in the Unity Engine to Itch.io.
- Designed and implemented a clear Unity UI and animation pipeline leveraging Mecanim Animator, 2D Tilemap Editor, and custom Asesprite sprite assets for player, player's enemies and visual art.
- Implemented real-time, safety-critical visual feedback systems such as color-coded projectile indicators, resource depletion bar, and timed ability states to ensure clear and reliable risk communication to end users

Adaptive Personalized Expression Recognition - Github   Feb - Apr 2025
CMPT 419 - Special Topics in Artificial Intelligence, SFU

- Developed a successful real-time personalized expression recognition system while working alongside a team of 3 people.
- Leveraged PyTorch's Torch and Torchvision packages to train a convolutional neural network on a publicly available FER-2013 dataset with 3,589 examples and the user's unique face features.
- Collect facial signals from live sensor input and surface timely feedback through a PyQt5 and OpenCV user-facing interface.
- Accurately displayed the names of users' live facial features from usability surveys, which leading to a high project grade.

UnderCooked   Sep - Dec 2024
CMPT 276 - Introduction to Software Engineering, SFU

- Developed a collaborative, top-down Java game using IntelliJ IDEA by engaging in weekly team discussions to define project workflow.
- Implemented software design patterns such as object-oriented design, Singleton and Adapters to engineer player movement, score collection and different game scenes.
- Collaborated and communicated efficiently with the team's GitHub version for coordinating commits, branches, merges and Maven's Project Object Model file.
- Automated test coverage with JUnit testing framework for bug fixing and refactoring system structures.

Education

BSc Computing Science   Sep 2023 - Apr 2027
- Canada

Associate of Science   Sep 2021 - Apr 2023
- Canada