KIERAN PARANJPE

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EDUCATION

McGill University   August 2023 - April 2027
BSc in Computer Science (AI), Minor in Cognitive Science | 4.00 GPA   *Montreal, QC*

SKILLS

Languages: C#, Java, JavaScript, TypeScript, Python, Golang, C, Bash, MIPS Assembly, HTML, CSS
Frameworks/Tools: Git, Docker, AWS EC2, PyTorch, OpenCV, React.js, Next.js, Unity, Firebase, P5/Processing
Soft Skills: Public Speaking, Concise Communication, Quick Learning, Empathy, Teamwork, Leadership

EXPERIENCE

Software Developer Intern | *Python, PyTorch, OpenCV, C#, Unity, JavaScript*   May 2024 - August 2024
The Verse   *Vancouver, BC / Remote*

- Developing a realtime breath detection library to overhaul the company's current breath detection system using **Python**, **PyTorch** and **OpenCV** to support development of all ongoing breath games.
- Implemented a custom web-app to collect and automatically annotate audio data using **JavaScript** and p5.js to **increase dataset size by 500%** from 2000 samples to 10000 samples.
- Engineered a breath-mechanic game using **Unity3D** and **C#** to demonstrate how video games can be used for breathwork. Gave a presentation internally to 30 people to show the project's viability.

Software Developer | *C#, Unity, JavaScript, Firebase*   September 2016 - August 2023
KP Games   *Vancouver, BC*

- Published 8 desktop games and 4 mobile games using **Unity** and **C#**, garnering **over 1000 users** across all games.
- Designed games in the following genres: platforming, first/third person shooters, multiplayer, endless runner and active ragdoll.
- Implemented multiple finite state machines and behaviour trees for enemy AI to increase modularity and improve NPC intelligence.

Software Developer, Robot Designer | *Java, Android Studio, Fusion 360*   Septemeber 2019 - April 2023
FIRST Robotics (FIRST Tech Challenge & FIRST Global Challenge)   *Vancouver, BC*

- Captained my FIRST Tech Challenge robotics team to top 3 provincial finishes twice & one world championship appearance. Represented Canada for the 2022 FIRST Global Challenge in Geneva.
- Developed code for both autonomous and remote control use to operate robot driving, sensor input and appendage motion (arms, flywheels, lifts, etc) using **odometry**, **PID**, and **state machines** with **Java**.
- Implemented Computer Vision with **OpenCV** to handle image detection for autonomous use.

PROJECTS

Custom Neural Network ⧉ | *Python, NumPy*   June 2024

- Programmed a custom feedforward neural network in **Python** using NumPy **without any machine learning libraries** (like PyTorch) to classify the MNIST digit dataset with >**90% accuracy**.
- Implemented a deep learning network with over **25,000 trainable parameters** by researching the underlying mathematics behind back propagation and gradient descent.

URL Shortener ⧉ | *Golang, TypeScript, Next.js, PostgreSQL, Docker, AWS EC2*   May 2024

- Developed a full-stack web application to shorten URLs using a **Golang server** running on an **AWS EC2** instance with a **Next.js frontend**.
- Implemented middleware to handle JSON Web Tokens (JWT) to ensure users are properly authenticated.
- Encapsulated the backend in a **Docker** container so it can be easily deployed on AWS.

Spotify MP3 Download & Stats ⧉ | *TypeScript, Next.js*   January 2024

- Developed a web-app in **TypeScript** with **Next.js** that downloads a user's Spotify library without Spotify premium.
- Displays top songs, artists, and genres for 3 different timeframes using the **Spotify Web API**.
- Utilized the **YouTube Data API** to search for corresponding music videos to download.
- Implemented **NextAuth** to handle authentication with refresh tokens.