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# Michael Ferreira

[portfolio website](#)

GitHub: michaeljfo7  
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## Education

Waterloo, ON, Canada	University of Waterloo	Sept 2025
Waterloo, ON, Canada	Wilfred Laurier University	Sept 2025

## Technical Skills

- Languages: Python, Javascript/HTML/CSS, Typescript, Racket
- Frameworks and Libraries: Node.js, pygame, React.js, Next.js, pandas, scikit-learn, matplotlib

## Work Experience

Software Engineering Intern	LocalReach	Nov 2024 – Mar 2025
Charity CEO and Lead Developer	Baobab	Dec 2024 – Aug 2025

- Collaborated with a team to build and maintain the company website using TypeScript and Next.js
- Contributed to the development of a computer vision AI system designed for real-time recognition on in-store TV displays
- Gained hands-on experience in building production-grade software under tight deadlines, with a focus on adaptability and rapid iteration

## Projects

### Baobab Charity Website

<https://github.com/michaeljfo7/baobab-website>

- Built a **full-stack web application** using **TypeScript**, **React**, **Next.js**, and **MongoDB**, with a responsive, grid-based layout and dynamic routing
- Developed **user authentication** and **account management** with secure session handling
- Implemented a charity wishlist system allowing real-time updates and direct item tracking
- Designed and connected **MongoDB** databases to efficiently store user and charity data
- Integrated modular, reusable React components to support scalability and fast feature iteration

### Forex Predictor

<https://github.com/michaeljfo7/forex-predictor>

- Built **ML pipeline** predicting forex movements using **Python** and scikit-learn; engineered 90+ features from technical indicators (RSI, MACD) and market data (equities, commodities, bonds)
- Trained **Random Forest and Gradient Boosting models** with time-series cross-validation, achieving R<sup>2</sup> of 0.15 on EUR/USD next-day returns
- Automated data collection and created visualization suite for model evaluation

### Atari Centipede Clone

<https://github.com/michaeljfo7/centipede>

- Built a Centipede arcade game clone using **Python** and **Pygame**
- Developed responsive **keyboard controls** and game state management
- Applied **modular code structure** for easy feature expansion