Thomas Armena

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McMaster University (Hamilton, Canada)

github.com/thomas-armena

Software Engineering Bachelor's Degree (2016 - 2021)

thomas-armena.dev

Work Experience

- **Contract Full Stack Developer** - University of Toronto (Sep 2018 - Sep 2019)

  - Developed an interactive learning website for a first year anatomy course
  - Designed a **RESTful API** that handles student authentication and progress in **Golang** and using **Postgres**
  - Created various exercises in **React** such as drawing ligaments on **3D models**, drag and drop choices, etc
  - Implemented **scalable** state management for the frontend using **redux**

- **Software Developer (Co-op)** - Canadian Imperial Bank of Commerce (Jan-Aug 2019)

  - Created a system of biometric camera's that collects and stores facial data into an **SQL database** and can be controlled remotely (**raspberry pis** and **amazon web services**)
  - Developed a prototype with one other developer that was pushed to production; a smart device station that allows you to connect and use peripheral devices (printers, scanners, card readers) via bluetooth proximity and secured wireless connection (**node and electron**)
    * Demoed this project to stakeholders which included VPs and seniors of a few departments
    * Held meetings to handoff knowledge of the architecture and code to the engineers that will bring the project into production
  - Worked in a team of 5 to develop a digital kiosk assistant for future banking centres
    * Created the "hearing" capabilities of the AI, leveraging mic arrays attached to a raspberry pi to capture audio and convert it to text using various AWS APIs
    * Contributed to the high-level design architecture of the **deep learning model** used for the AI, experimented with **recurrent neural networks** to see how they could be used to leverage contextual information to make decisions

- **Application Developer (Co-op)** - Canadian Imperial Bank of Commerce (Sep-Dec 2018)

  - Automated banking processes in a z/OS system using REXX and JCL

- **Innovation Engineer and QA Automation (Co-op)** - World Vision Canada (May-Aug 2018)

  - Created a **hand gesture** controlled minigame alongside 2 other developers in **Unity (C sharp)** using LEAP (hand motion detector) in order promote an upcoming Netflix documentary
  - The project was showcased in cineplex on the big screen during the launch of the documentary
  - Created a web scraper in **python** and selenium in order to introduce integration tests into the CI/CD pipeline

Side Projects

- **Chess Dash** - A mobile arcade puzzle game inspired by Chess (available on the Google Playstore)

  - Designed an algorithm which creates unlimited randomly-generated puzzles (**Dart**)
  - Created a responsive mobile UI using Google's **Flutter** UI kit

- **Postra** - A web application for making digital collages and sharing them online

  - Built an online editor in **React** that lets you perform vector transformation on images and text
  - Created a backend service to store images and collage layouts, aswell as handle user authentication (**node, express, mongo**)

- **Chaos** - 1st place submission for a game programming competition (Rogue-like top down shooter)

  - Worked in a team of four to brainstorm ideas, design, develop, and debug the game
  - Implemented the **movement mechanics, equipment system, and random level generation** (Game Maker Studio 2)
  - Pitched game to judges alongside my team in Sheridan College, which included Computer Science instructors

- **Finstagram** - Top 5 project submission at a CIBC Hackathon

  - Created a mobile web app in **React** with a live feed of financial advice
  - Leveraged open banking APIs to obtain transactional data to base advice off of
  - Placed top 5 out of 25 teams

- **Git Plant** - Your own linux terminal plant that grows as long as you stay active on Github

  - Used a **fractal algorithm** to create randomly generated plants (**C++**)
  - Rendered the plant in the terminal only using ASCII characters

Involvement

- **Student Council** - Minister of Social Events (Sep 2015 - June 2016)

- **High School Computer Club** - Member (Sep 2015 - June 2016)

- **Asian Student Society at McMaster University** - Representative (Sep 2017 - May 2018)

- **Delta Hacks (Hackathon at McMaster University)** - Participant (Sep 2017)

- **CIBC Hackathon** - Participant (Dec 2018)

- **CIBC Tech Co-op Social Commitee** - Representative (Sep 2018 - Dec 2018)

- **McMaster Competitive Programming Team** - Participant (Sep 2019 - current)