JOSHUA DIERICKSE

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Technical Skills

Languages: HTML, CSS, JavaScript, JSON, SQL, Python, Java, C++, Bash, Racket, LaTeX
Technologies/Frameworks: NodeJS, ReactJS, ExpressJS, MongoDB, Mongoose, PostgreSQL, REST API, Axios, OAuth, PassportJS, EJS, jQuery, npm, Java Swing, Pygame, Arduino, Bootstrap, MaterialUI
Developer Tools: Git, GitHub, Postman, VS Code, PyCharm, IntelliJ IDEA, CLion

Experience

Venuiti Solutions Inc.   **August 2023**
Student Software Intern   *Waterloo, Ontario*
- Updated documentation on launching the T6 backend servers to improve the **efficiency of onboarding.**
- Learned the basics of computer networking (IP, DNS, HTTPS) as well as the T6 backend structure (Spring Boot, Gradle, Maven).

HomeworkHub   **June 2023 − August 2023**
Python Programming Instructor   *Waterloo, Ontario*
- Taught a series of lectures regarding the fundamentals of **Python** to students from grades 4 to 8 over a virtual setting.
- Delivered comprehensive PowerPoint lessons as well as developed in-class and take-home assignments to **solidify student understanding.**

High School Robotics Club   **September 2022 − June 2023**
Club Executive   *Waterloo, Ontario*
- Led weekly lessons, teaching students how to build Arduino circuits with various components such as **LCD displays, ultrasonic sensors, piezo speakers,** etc, and then taught students how to code their creations with **C++.**
- Instructed club attendees through various mediums including PowerPoints, hands-on circuits, and virtual simulations.
- Taught students various computer components through a PC disassembly and reassembly workshop.

Projects

Cooking AI | *NodeJS, ExpressJS, OpenAI, Web Scrapping, Text-to-Speech & Speech-to-Text*   **September 2023**
- Developed a **full-stack web app** with an AI cooking assistant, who is knowledgeable on a specific recipe.
- Implemented **web scrapping using Puppeteer and Cheerio** to scrap data from a specific website's recipe.
- Built a NodeJS and ExpressJS backend to process recipe data and send API requests to **OpenAI Text Davinci 3.**
- Created an HTML, CSS, Bootstrap, and EJS frontend with an **AI Chat Bot** that has **speech-to-text** and **text-to-speech** capabilities, allowing the user to have a conversation with CookingAI.
- Incorporated UI/UX design principles along with splashes of colour theory and typography.

BookNotes | *NodeJS, ExpressJS, Bootstrap, EJS, Axios, PostgreSQL*   **December 2023**
- Programmed a **NodeJS and ExpressJS** backend API that uses **Ajax** for asynchronous data transfer and **Axios** for API calls to the **Open Library API** to retrieve data on specific books.
- Connected the server backend to **PostgreSQL,** performing **CRUD operations with SQL** to permanently save user data.
- Designed a user-friendly frontend that allows users to search for specific books and save them along with their notes using **HTML, CSS, Bootstrap, and EJS** once again.

Java Chess | *Java, Java Swing, IntelliJ IDEA*   **June 2022**
- Implemented a 2 player game of chess using **Java Swing's GUI toolkit,** taking advantage of **object-orientated programming** when creating the chess board and pieces.
- Developed algorithms to prevent illegal moves, allow for unique moves (en passant, pawn promotion, castling), and detect if a position is either checkmate or stalemate.

Education

University of Waterloo   **September 2023 − Present**
Bachelor of Computer Science, Honours Co-op | *GPA: 3.8*   *Waterloo, Ontario*
- Coursework in Algorithm Design and Data Abstraction, Tools and Techniques for Software Development, and Designing Functional Programs.
- Recipient of the **President's Scholarship of Distinction.**