Gordon Zhang

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Technical Skills

Languages: JavaScript, Typescript, Python, C++, C, Java, SQL
Frameworks: React, Vue.js, Node.js, Flask, Express.js, Jest, Bootstrap, TailwindCSS, Babel, Firebase
Developer Tools: HTML, CSS, Webpack, Docker, MySQL, Postman, Git, Vercel, Google Cloud, AWS
Libraries: NumPy, Pandas, cmath, Lodash

Experience

Full-stack Developer   Sept 2024 – Present
BLNDSPT Labs   *Waterloo, ON*
- Directed development team through app life cycle using **Typescript**, **React**, and **Node.js** to prioritize scalability, resulting in a **280%** increase in user traffic
- Enhanced checkout security by developing and integrating **RESTful** APIs and Stripe APIs webhooks with **Express** and Node.js, resulting in a **49%** reduction in checkout errors
- Delivered **20+** client requested features by collaborating with stakeholders, deploying prototype to production in **6** weeks
- Optimized checkout page by developing a time-sensitive discount algorithm with **Python**, boosting purchases by **23%**
- Programmed cart, checkout, and order systems with React to optimize transaction flow, reducing checkout time by **40%**

Firmware Developer   Sept 2024 – Present
UW Formula Electric   *Waterloo, ON*
- Programmed **CLI** commands in **C** to control an inverter and send CAN message to modify inverter EEPROM parameters
- Developed a cooling control algorithm for a PDU, dynamically controlling fan operation based on temperature thresholds

Software Curriculum Developer   Jan 2023 – May 2024
ARTex Coding Society   *Vancouver, BC*
- Co-founded a global non-profit providing free coding lessons to **900** students across **4** countries by leading curriculum design
- Programmed **50** coding puzzles in **JavaScript** and **32** RESTful API exercises, increasing classroom engagement by **200%**

Projects

WhaleBeing ⚲ | **DeltaHacks 1st Place** | *JavaScript, React, Python, Flask, Azure, NumPy, Pandas, TailwindCSS*
- Developed full-stack dynamic **AI prediction model** for whale-ship collisions with **React**, **Python** and **Flask** to reduce ship strikes in coastal waters
- Built a ML model in **NumPy** and **Pandas** using boosted regression trees and satellite data to predict whale distribution
- Integrated real-time predictive whale heat-map based on ML model with **Mapbox** API to enhance maritime navigation
- Implemented a ship strike risk-analysis algorithm with Python and integrated Searoutes API to dynamically display routes
- Deployed backend on **Azure** using **CI/CD pipelines** with Azure DevOps for automated deployment with **99.9% uptime**

ShakespeareAI ⚲ | *JavaScript, React, Node.js, Express.js, Firebase, GCP*
- Engineered **AI digital note-taking** web app with **React** and **Node.js** to quiz users on their handwritten notes in real-time
- Integrated AI quizzing system using **Cloud Vision** API to convert handwritten notes to text and **OpenAI** API to generate questions, improving text recognition accuracy by **32%** compared to earlier AI pipeline designs
- Developed **Auth** system with Node.js & **Firebase** by integrating **RESTful** API's for user signup and password reset
- Programmed AutoSave feature for **data retrieval** using Firestore Database achieving **28%** lower data retrieval latency
- Optimized cost efficiency, reducing **87%** of unnecessary Firebase writes by integrating a debounce **Lodash** delay mechanism

BiggerPicture ⚲ | *Javascript, Vue.js, Python, Flask, MySQL, AWS*
- Built an interactive photo mosaic web app using **Vue.js** and **Flask**, allowing for synchronized back-end collaboration
- Managed and stored real-time user updates by implementing **mySQL**, ensuring data consistency and seamless collaboration
- Implemented **WebSockets** to enable real-time communication between clients and the server for instant updates
- Integrated **Amazon S3** for scalable storage of uploaded images, enabling efficient retrieval during live collaboration

LooLooLoo ⚲ | *Typescript, React, Express.js, Node.js, Docker*
- Developed a full-stack indoor navigation web app with a **React** and **Node.js** to direct users to nearby bathrooms when they drink from a water fountain
- Engineered an interactive 3D indoor map using **Typescript** to show the real-time path from user location to destination
- Programmed an ESP32 microcontroller using YAML to ping Bluetooth proximity of users phones every 2 seconds and send POST requests, triggering Twilio API to send custom SMS notifications

Education

University of Waterloo   Waterloo, ON
BASc in Computer Engineering, Honours, Co-op   *Sept 2024 – Apr 2029*