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# Athena Meng

[GitHub](GitHub)
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## Summary

Professional Software Developer with strong foundations in computer programming and software engineering, currently pursuing a Master's degree in Electrical and Computer Engineering at Ontario Tech University. Passionate about designing and developing efficient, scalable software solutions, leveraging algorithmic problem-solving and full-stack development expertise. Experienced in building user-friendly applications and collaborating in dynamic environments to deliver high-quality software. Currently working as a Front-End Developer at Donor Bridge, a newly established company, gaining hands-on experience in developing and optimizing front-end applications in a startup environment. Committed to continuous learning and staying at the forefront of emerging technologies.

## Professional Work & Project Experience

**Donor Bridge (Early-Stage Startup) – *Software Developer* (Toronto, ON)**                    *May 2023 – Present*

- Spearheaded front-end development using the React framework, efficiently building reusable UI components with its component-based features, speeding up the development process, and ensuring code maintainability.
- Implemented secure authentication flows and worked with APIs ensuring proper handling of sensitive donor data.
- Developed reusable React components with secure coding practices.
- Leveraged the latest ES6+ JavaScript features to enhance code efficiency and readability, and used async/await for handling asynchronous requests, optimizing page response times and user interaction experiences.
- Implemented Redux for application state management, ensuring UI components and data state are updated in sync, improving application performance.
- Coordinated closely with the back-end development team, using technologies like RESTful API to ensure efficient and stable data interchange between front and back end.
- Integrated Flinks API to securely connect and retrieve financial data from multiple banks, ensuring compliance with data handling standards.

## Project Experience

**Smart Building Sensor Placement Simulation Tool — [sensorplanner.com](sensorplanner.com)**

- Designed and deployed a web-based IoT simulation platform using React, TailwindCSS, and RESTful APIs, enabling optimal sensor/device placement in smart buildings to improve coverage and reduce energy/cost inefficiencies.
- Developed an interactive multi-floor visualization tool with real-time drag-and-drop sensor configuration, connectivity/interference simulation, and context-aware automation rules.
- Implemented user session management, file persistence, and real-time event logging, demonstrating energy-efficient device coordination and smart building concepts without requiring physical hardware.
- Applied IoT and smart building concepts to demonstrate energy-efficient device coordination without physical hardware deployment.

**Energy consumption monitoring platform —  BrainStation**

- Architected a secure login and dynamic dashboard showcasing energy consumption via pie charts and trends with MySQL, focusing on strategic planning support. Implemented 3D BIM modeling for enhanced visualization and integrated weather forecasts to optimize energy use.

- Built an alert system for maintaining optimal conditions by monitoring temperature deviations. Integrated the OpenWeatherMap API to add a forecast feature presenting weather conditions and temperatures for the upcoming three days, assisting in adjusting energy use.
- Crafted an interactive interface for detailed energy consumption views per office unit and streamlined team management by facilitating easy addition and removal of members. Introduced an FAQ page for immediate problem- solving.

## Education

**Ontario Tech University – *MEng, Electrical and Computer Engineering*** *(Oshawa, ON)*        *Jan 2025 – Present*

**BrainStation – Software Development**  *(Toronto, ON)*        *Jan 2024 – Mar 2024*

**Seneca College – *Diploma in Computer Programming*** *(Toronto, ON)*        *Sep 2021 – Dec 2022*

## Certifications

**IBM – *Data Analyst Professional Certificate***

**Microsoft – *Azure AI Fundamentals***

## Languages:

HTML5, JavaScript(ES6+), C/C++, CSS3, TypeScript, Python, SQL

## Technical Skills

**Tools, Frameworks, and Libraries:**

React, MySQL, NPM, Chrome Developer Tools, Node.js, MongoDB, RESTful APIs, Docker, Express, Git(GitHub), Sass, CI/CD, jQuery, WordPress, Postman, MATLAB