David Welsh

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Education

Master of Computer Science: Data Science and Artificial Intelligence. **2026**
Clemson University, Remote GPA: 3.50/4.00

Bachelor of Environmental Science **December 2017**
Michigan State University, East Lansing GPA 3.11/4.00

Skills

- **Languages:** TypeScript, JavaScript, Python, Java, (Learning Go)
- **Frontend:** React, Next.js, Tailwind CSS
- **Backend:** FastAPI, Spring Boot, Node.js/Express
- **Data/DB:** PostgreSQL, Prisma, Drizzle, MySQL, Neo4j
- **ML/DS:** Scikit-learn, Pandas, NumPy
- **DevOps & Test:** Vercel, AWS, Cloudflare, Railway; Vitest**,** Jest**,** Cypress

Experience

Clemson University: Graduate Student
August 2024 – Present

- Pursuing M.S. in Computer Science at Clemson University, with coursework in Data Mining, Database Management Systems, and advanced analytics.
- Completed applied machine learning projects including clustering, outlier detection, logistic regression, PCA, and cross-validation.
- Aligned studies with PhD-level rigor**,** integrating research methods with practical portfolio applications in AI and full-stack development.
- Taking on many “hobby” projects, such as building AI agents, and playing around with practical AI integration into applications.

Career Break: Medical Field
*Roles Held**:*** Nursing Assistant, Student Nurse
April 2022 – March 2025

- Delivered high-quality patient care across Oncology and Behavioral Health units, developing strong analytical, problem-solving, and interpersonal communication skills in high-pressure environments.
- Supported staff with troubleshooting and navigating the electronic medical record (EMR) system, strengthening my ability to translate complex technical processes into practical solutions for non-technical users.
- Collaborated with multidisciplinary teams to coordinate patient care, reinforcing data accuracy, documentation integrity, and attention to system workflows.
- Learned to remain calm and solution-focused under pressure — skills directly transferable to debugging, incident response, and cross-functional engineering work.

- Applied structured thinking, rapid learning, and adaptability to dynamic clinical environments. Capabilities that I now leverage in software engineering and technology problem-solving contexts.

Grant Place Designs: Founder and Fullstack Developer
January 2018 – April 2022

- Founded and scaled a boutique web-development studio to 15 active clients, owning the full product lifecycle from discovery to deployment and driving measurable revenue growth for small businesses.
- Designed and implemented responsive, accessibility-first web experiences using modern frameworks and SEO-driven best practices, boosting client engagement and discoverability.
- Collaborated cross-functionally with designers, marketers, and non-technical stakeholders to translate business goals into performant, user-centric digital products.
- Managed hosting, deployment pipelines, and version control workflows, introducing structured DevOps and CI/CD practices to streamline project delivery.

Northwestern Memorial Hospital: Volunteer
July 2021 – April 2022

- Guided patients and visitors through hospital systems and services, developing deep user empathy and an understanding of accessibility in complex environments.
- Helped implement and communicate COVID-19 visitor policies with clarity and compassion, balancing compliance with user experience.
- Mediated high-stress situations with empathy and professionalism. Strengthening communication, active listening, and conflict-resolution skills essential for cross-functional product teams.

Food Design HQ: Fullstack Developer
January 2016 – December 2017

- Co-founded and engineered MyPalate**,** a mobile app built with React Native**,** Expo**,** and a Node.js/Express backend, reaching 2,250+ monthly active users.
- Designed and implemented RESTful APIs, data models, and client-server communication, ensuring scalability and smooth UX across platforms.
- Managed deployment pipelines, authentication flows, and cloud integration using Firebase and AWS**,** maintaining uptime and performance under increasing traffic.
- Led end-to-end development on a campus-wide web application that digitized organic farm logistics, integrating real-time data sync and automated distribution tracking.

Fair Lumber Company: Web Developer
June 2012 – December 2015

- Designed, built, and maintained the company's first website using HTML, CSS, and vanilla JavaScript**,** significantly improving online visibility and customer engagement.
- Collaborated directly with the owner to align technical implementation with evolving business needs, ensuring the site's scalability and maintainability.
- Gained foundational experience in web architecture, responsive design, and iterative development, setting the stage for later full-stack engineering work.

Recent Projects

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EchoGallery October 2025 – Ongoing

- Leverages Computer Vision and NLP in order to analyze various works of art and recommend pieces/exhibits to see within a given museum or gallery.
- Currently being built with a NextJs frontend and a Spring boot backend

Spotter April 2025 – Sept 2025

- An AI powered matchmaking platform that helps active people find and connect with workout partners in sports ranging from weightlifting to rock climbing.
- Built a user-friendly onboarding flow, profile matching, and real-time chat to streamline partner discovery.
- Leveraged ChartJs as a means of visually displaying fitness data and trends to the user.
- Next.js front-end, FastAPI backend integrating custom AI-driven recommendation tools, Prisma/Drizzle for the database

ExMind

- Developed a full-stack AI assistant platform using Next.js, FastAPI, and Prisma, integrating ChatGPT APIs to automate and streamline consulting and research workflows.
- Collaborated with a Blackstone consultant to identify bottlenecks in document review and analysis, designing tailored prompts and retrieval logic that reduced task turnaround time by over 40%.
- Implemented secure, modular backend services with FastAPI and Prisma ORM, enabling scalable user management, data persistence, and GPT-driven workflow customization for consulting use cases.

Movie Recommendation System March 2025 – April 2025

- Designed UX flows for users to discover films; ran user tests with 10 peers and iterated UI based on feedback.
- The recommendation system was built using a rule-based filtering approach in Python with Pandas, leveraging movie metadata to recommend top-rated films based on genre, release year, and popularity.
- The frontend is built with NextJs, Typescript, with Tailwind providing most of the styling.
- The backend of the app utilizes Fast API to connect the client facing application to the movie recommendation system.
- Achieved 85% positive feedback on recommendation relevance in a 10-user pilot

Chat App March 2025

- I wanted to play around with the OpenAI Chat API to see how I could leverage it with a fullstack application.
- The frontend is built with VueJs and VITE.
- The routing is a simple express configuration to manage the connection with the OpenAI API
- Connecting Neon and utilizing the Drizzle ORM was the highlight of the project, as I have wanted to play around with it.
- The backend was written entirely in TypeScript, with it being used when appropriate on the frontend in order to improve the project's performance.