Josh Charpentier
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Education

University of Wisconsin-Madison | Madison, WI   **September 2021 - present**
Bachelor of Arts: Computer Science and Philosophy   GPA 3.86/4.00

Experience

Skyward Inc.   Hybrid - Stevens Point, WI
Software Engineer (promoted from Software Engineer Intern in May 2025)   June 2024 - Present
- Engineering Qmlativ, a school information system serving over 2,500 school districts, by enhancing user workflows, updating in-house files to newer technologies, and implementing requested features from students, families, teachers, and administrators
- Developing changes on the front-end (JavaScript and a custom XML Framework) and back-end (C# .NET Framework)
- Built a Power Automate pipeline that consolidated hundreds UX-research contacts into a single SharePoint hub, cutting UX designer's lookup time and duplication of contacts almost entirely
- Optimizing Microsoft SQL Server queries and Microsoft AJAX calls for thousands of customers

University of Wisconsin - Madison   Madison, WI
Peer Mentor for COMP SCI 571 - Building User Interfaces   August 2023 - May 2024
- Mentored over 150 undergraduates in JavaScript, React, and React Native, providing one-on-one code reviews and debugging sessions that strengthened their grasp of modern front-end development
- Coached students through heuristic evaluations and usability testing, instilling industry-standard design thinking and evaluation practices that elevated overall project quality

Projects

MadCourses | UW-Madison Skill-to-Course Matching Platform
Free Time Project
- Provisioned a Supabase-hosted PostgreSQL instance, storing over six thousand course rows and 384-dimensional all-MiniLM-L6-v2 vector embeddings generated by from parsing the UW-Madison course directory
- Authored a parameterized SQL function for cosine-similar nearest-neighbor search, enabling quick skill-to-course matching at scale, with type-safe input validation and index-backed vector queries
- Deployed a Python FastAPI microservice on Hugging Face Spaces that exposes the matching function via a REST endpoint, adding CORS control, JSON schema validation, and Docker-based CI/CD for zero-downtime updates
- Delivered a responsive SvelteKit front-end hosted on Vercel, integrating with the API through fetch hooks and TypeScript stores, and implemented Tailwind-driven UX for dynamic filters and real-time similarity scoring

parkIt | Local Parking Rental Site
MadHacks 2024 Hackathon Project
- Architected a Django REST API with token & CSRF authentication, image uploads, and email notifications (Gmail SMTP) powering end-to-end listing, favorite, and contact flows
- Built a performant front-end with React & Typescript, utilizing over 200 utility classes from Tailwind CSS, allowing for rapid styling

BreakIt | Bad Habit-Breaking App
Free Time Project
- Developed a React Native app that generates dynamic 9-week taper-off goals and logs every lapse, helping users visualize progress
- Persisted state with Redux Toolkit & AsyncStorage, delivering a bug-free, 3-month beta testing phase for over two-dozen users
- Utilized React Navigation, custom haptics, and animations to facilitate engagement and user satisfaction

Daily Grind | Nearby Coffee Shop Locator
Free Time Project
- Created a React website that surfaces five random cafes inside a user-defined radius & travel mode via Google Maps & Places APIs
- Implemented a card-flip UI and Bootstrap responsive grid, ensuring seamless and accessible viewing across various screen sizes

Programming Skills

Advanced: Agile methodology, Adobe Suite, Bootstrap, C#, CSS, Figma, Git/GitHub, HTML, Java, JavaScript, jQuery, Kanban, Python, React, React Native, REST APIs, SQL, Typescript
Intermediate: AJAX, C, Docker, FastAPI, Google Cloud, MSSQL, PostgreSQL, Redux, SvelteKit, Swift, npm/Yarn
Fundamental: C++, Cassandra, Express.js, Hadoop, Kafka, Postman, Power Automate, Spark
Passions: chess, exercising, photography, reading, visiting coffee shops, writing