# Josh Charpentier

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## Education

**University of Wisconsin-Madison** | Madison, WI                                  **September 2021 - May 2025**
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
- Contributing to the maintenance and addition of required state reporting fields that affect school funding

**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

**CoverMe | AI-Powered Cover-Letter Generator**                                            June 2025 - July 2025
- Engineered a Next.js app that drafts employer-specific cover letters with open sourced, free large language models, letting the user choose between running models locally via Ollama or in the cloud through OpenRouter
- Built a lightweight, pipeline that feeds resume content, Playwright-scraped job descriptions, and optional writing samples into artificial intelligence models, enabling them to generate highly accurate first-draft cover letters
- Developed a responsive React front-end styled with Tailwind CSS that validates user input in real time, guiding users smoothly through each step of the workflow

**MadCourses | UW-Madison Skill-to-Course Matching Platform**                              April 2025 - May 2025
- Implemented a scalable retrieval-augmented generation system using Supabase-hosted PostgreSQL and Vercel Blob storage, managing over 10,000 courses with vector embeddings derived from course descriptions to enable semantic search capabilities
- Authored a parameterized SQL function for cosine similarity-based nearest-neighbor search, delivering efficient skill-to-course matching through Typescript input validation and optimized vector indexing for efficient query performance
- Built a serverless REST API with integrated Hugging Face services, generating real-time 384-dimensional embeddings via the all-MiniLM-L12-v2 model
- Delivered a responsive SvelteKit front-end hosted on Vercel and implemented Tailwind-driven UX for dynamic filters

**BreakIt | Bad Habit-Breaking App**                                                       March 2023 - May 2023
- 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

**parkIt | Local Parking Rental Site**                                                      2023 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, styled with over over 200 utility classes from Tailwind CSS

## Skills

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