Cai Chen

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Education

Iowa State University   **Expected Graduation: December 2026**

Bachelor of Science in Computer Engineering   GPA: 3.5

Work Experience

Software Engineering Intern   **May 2025 – Aug 2025**

Dwolla   *Des Moines, Iowa*

- Migrating the internal dashboard to a modern tech stack using **TypeScript**, **Material UI, Next.js**, **Redux Toolkit**, and **Scala**, **enhancing** application **performance by 30%**.
- **Built**, **tested**, and **deployed 2+ pages** and **4+ components** using **Jest** and **Storybook**, ensuring functionality, visual consistency, and regression stability within the **first 4 weeks**.
- Identified and resolved **UI inconsistencies** across components and pages, improving user experience and **visual consistency** across the entire codebase.
- Participating in **Agile Scrum ceremonies** (**daily standups**, **sprint planning**, **breakouts**, **refinements**, **retrospectives**) and managed deliverables using **Jira**, consistently **delivering production-ready features** within the sprint cycle.

Projects

Chardle.com – Daily Character Guessing Game   **Feb 2025 – Present**

React, JavaScript, Tailwind CSS, Daisy UI, Express.js, AWS, Docker, n8n, Google Analytics 4 (GA4)

- Engineered a responsive **full-stack** web application with dynamic hints, daily resets, data persistence, franchise-specific logic, and reusable components, supporting **15+ franchises** and **driving 20,000+ monthly users** across all devices.
- Migrated backend infrastructure to **AWS** (**API Gateway**, **DynamoDB**, **S3, CloudFront**), resulting in a **50% reduction in server costs** and seamless scalability.
- Implemented **AWS Cognito** for **secure user authentication** and cross-device stat tracking, **increasing retention by 25%** and boosting engagement across platforms.
- Integrated **AI automations** via an **n8n workflow** powered by **ChatGPT** and **Claude**, **containerized with Docker**, to automate show creation and **save an average of 3 hours** per franchise.
- **Boosted organic traffic by 350%** through **SEO optimizations.** Tracked and validated growth using **Google Analytics 4 (GA4)** and Bing/Google Search Console, achieving **first-page keyword rankings across 20+ pages**.
- Negotiated a **12-month ad partnership** with Venutas, **increasing monthly revenue by 300%** over Google AdSense.

Portfolio.Czchen.dev – Windows 11 Inspired Portfolio Site   **June 2025**

Next.js, TypeScript, React, TailwindCSS, MongoDB, Node.js

- Developed a **full-stack** Windows 11 inspired portfolio site with fully **responsive draggable sub-windows**, notifications, sounds, brightness, and **10+ custom built apps**, enhancing satisfaction and user engagement.
- Developed a **lightweight, serverless backend** using **MongoDB** and Nodemailer to power a contact form and a Twitter-style message board, enabling **real-time message storage**.
- Built a **full-featured Spotify clone** using the official **Spotify Web API**, implementing playback controls, sound streaming, and real-time user interaction.
- Integrated a **ChatGPT-powered AI assistant** using Vercel's **AI SDK** and **OpenAI API**, enabling **context-aware** user interaction.

WorkSync – Workforce Management App   **Jan 2025 – May 2025**

Spring Boot, Java, JUnit 4, MySQL

- Architected a workforce management system using **Spring Boot** and **MySQL**, featuring role-based access control, multi-company support, and data validation, securing a **Best Coder Award** and recognition as the **2nd Best Project** in the class section.
- Implemented **comprehensive testing** using **JUnit 4**, achieving **70% line coverage** across controllers, services, and entities through **200+ unit tests**, ensuring robust error handling and data validation.
- Implemented **Gitlab runners** for a proper **CI/CD pipeline**, preventing uncaught app breaking bugs to affect main.

Technical Skills and Certifications

Languages: TypeScript, JavaScript, Scala, Java, C, Python, Bash, HTML/CSS

Frameworks & Libraries: Next.js, React.js, Tailwind CSS, Redux Toolkit, Node.js, Express.js, Spring Boot, Junit

Tools & Infrastructure: AWS, n8n, AI SDK, Docker, Git, NoSQL, SQL, RESTful APIs, Jira, Agile Methodologies, Unix