

# Cai Chen

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## Education

Iowa State University

Bachelor of Science in Computer Engineering

Expected Graduation: December 2026

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**, **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.
- Collaborating with a **7-member Agile team** to modernize UI using **Material UI** to make components and pages.
- Participating in **Agile Scrum ceremonies (daily standups, sprint planning, 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, 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 an **n8n workflow** powered by **AI agents** including **ChatGPT** and **Claude**, **automating show creation** and **saving 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**.

Portfolio.Czchen.dev – Windows 11 Inspired Portfolio Site

June 2025 – Present

Next.js, TypeScript, React, TailwindCSS,

- Developed a **full-stack** Windows 11 inspired portfolio site with fully **responsive draggable sub-windows**, notifications, sounds, brightness, and **6+ 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**.
- Implemented **Spotify Web API** and **Howler.js** to deliver responsive sound effects and media playback.
- Integrated a **ChatGPT 3.5-powered AI assistant** using Vercel's **AI SDK** and **OpenAI API**, enabling real-time, **context-aware** user interaction via a dynamic **Master Control Panel (MCP)**.

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.
- Led **backend development** in an **agile scrum team environment**, completing **14+ major feature integrations** and maintaining detailed **API documentation** through **Swagger UI** and **Git version control**.
- 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 (Lambda, API Gateway, DynamoDB, S3, Cognito), Git, NoSQL, SQL, RESTful APIs, Jira, Agile Methodologies, Linux, Unix