Cai Chen

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Education

Iowa State University   **August 2023 – December 2026**
Bachelor of Science in Computer Engineering   GPA: 3.5

- Relevant Coursework: Coms227 - Object-oriented Programming, CprE281 - Digital Logic, Coms228 - Introduction to Data Structures/Algorithms
- In Progress: CPRE 3100 - Theoretical Foundations of Computer Engineering, CPRE 2880 - Embedded Systems I, SE 3190 - Construction of User Interfaces, COMS 3090 - Software Development Practices

Projects

JavaScript Algorithms and Data Structures Certificate – freeCodeCamp | *JavaScript, CSS, HTML, Git*

- Developed scripts for 20+ applications/mini projects and 5 capstone projects such as a generic shopping cart, spam filter, cash register, Pokémon search app, to-do list, and music player, utilizing JavaScript algorithms, modular code design, and efficient data structures to solve real-world problems.
- Enhanced code efficiency and maintainability by leveraging ES6 features, applying functional programming principles, and adhering to clean coding standards, resulting in reusable functions and easier debugging.

SOLAR – ISU Swan Hacks 2024 | *Java, HTML, CSS, C#, Spring Boot, Git, Shader Lab, MariaDB, Git*

- Collaborated with a team of three to develop a functional project utilizing Shader Lab for graphics, Java for core logic, and HTML/CSS for the frontend, integrated with a Spring Boot backend and MariaDB database for dynamic data management.
- Managed version control with Git, employing branching, regular updates, and seamless merging to prevent code conflicts and maintain a clean, collaborative repository workflow.

Portfolio Website | *JavaScript, Node.js, HTML, CSS, React, Node, Vite, Express, Git*

- Developed a responsive and visually appealing web application using HTML5, CSS3, and JavaScript to ensure compatibility and optimal performance across different devices.
- Integrated third-party libraries (e.g. AOS, React Router, React PDF viewer) through **React** to enhance functionality and improve user interaction.
- Engineered a backend server with Express and Node Mailer, enabling seamless and instant messaging functionality through the contact form.

Pi Pico Keyboard | *KiCad, Git*

- Created custom schematic and PCB in KiCad that fully implements the Pi Pico microcontroller to allow for fully functional keyboard switches.
- Soldered diodes, switches, and Raspberry Pi Pico appealingly without compromising functionality.

Skills and Certificates

Technologies and Languages: C, Java, Html/CSS, JavaScript, Node.js, Express.js, React.js, RestAPI, Git
Software: Altium, SolidWorks, KiCad, Microsoft 365, Google Suite, MATLAB
Certificates: JavaScript Algorithms and Data Structures Certificate – freeCodeCamp, Relational Database Certificate – freeCodeCamp (In Progress)

Experience

Independent Computer Repair   **Ames, IA**

- Diagnosed and resolved hardware and software issues on laptops, ensuring optimal system performance and enhancing user experience with a 100% issue resolution rate.
- Assembled and disassembled more than 5 laptops/PCs with precision to perform internal repairs and upgrades.