

# Billy Chiu

## IT Intern

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Junior Software Engineer with 3+ years of full-stack experience in cross-functional Agile teams. Skilled in React.js, Node.js, and modern JavaScript/TypeScript development. Successfully rebuilt a company website using the MERN stack, reducing load time by 30% and boosting speed by 15%. Strong foundation in data engineering and database systems, with prior experience ensuring data integrity and streamlining workflows. Eager to contribute technical expertise and problem-solving skills to innovative frontend or full-stack development projects.

### Skills

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**Programming Languages:** JavaScript (ES6+), TypeScript, Python

**Frontend:** React.js, Next.js, Angular, Vue.js, Redux, THREE.js, Tailwind CSS, HTML, CSS

**Backend:** Node.js, Express, RESTful APIs

**Databases:** MongoDB, Firebase, PostgreSQL, MySQL, SQLite

**Tools & Testing:** Git, Docker, Jest, Mocha, Chai, Playwright, Postman, Webpack, Babel, npm, yarn, Vite, Vercel, Figma

**Other:** SEO, SCRUM, WordPress, AWS, Data Annotation, Cantonese

### Work Experience

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**Sustainable Living Guide, Los Angeles** | Junior Software Engineer 10/2023 - Present

- Managed and optimized the company website using WordPress and Divi Builder, debugging and troubleshooting issues to reduce webpage errors by 15%.
- Rebuilt the entire website with the MERN Stack, reducing load time by 30% and increasing overall speed by 15%.
- Implemented technical SEO strategies, including site structure optimization, which boosted organic search traffic by 20%.

**UC San Diego Extended Studies, San Diego** | Junior Data Engineer 08/2020 - 09/2022

- Engineered and maintained accurate data pipelines by entering, validating, and transforming large volumes of records across multiple databases, ensuring 100% data integrity and confidentiality.
- Optimized data management processes by implementing error-checking protocols and automated consistency checks, which improved operational efficiency and reduced manual corrections by 20%.
- Collaborated with cross-functional teams to analyze reporting requirements and deliver timely, accurate datasets that supported decision-making and business operations.
- Streamlined database workflows by identifying bottlenecks and recommending system-level improvements, reducing query/report turnaround times by 15%.

### Education

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**App Academy, Coding Bootcamp** 2022 – 2023

- Courses: Data Structures & Algorithms, Object-oriented programming (OOP), Databases (Schemas), Web Development, Frontend, Backend, Software Development, Software Testing, Test-Driven Development (TDD), Cloud Services, Cloud Architecture, Agile

**UC San Diego** 2016 – 2020

- Physiology, Neuroscience, B.S.

### Projects

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**Interactive Piano Practice website** (*Next.js, TypeScript, Tone.js, MIDI API, Skia Canvas*) [piano.billy-chiu.com](https://piano.billy-chiu.com)

- Built a responsive web app enabling real-time piano practice with MIDI keyboard input and dynamic audio/visual feedback.
- Integrated Tone.js with Web MIDI API for live note recognition and optimized rendering with Skia Canvas for smooth, low-latency performance.
- Developed audio processing features with Fluent-ffmpeg, supporting preloaded and user-uploaded audio.

**Rubik's Cube Simulator** (*React, THREE.js, Redux-like State, Bootstrap*) [cube.billy-chiu.com](https://cube.billy-chiu.com)

- Developed a fully interactive 3D Rubik's Cube with free rotation, scrambling, and auto-solve visualization.
- Managed cube state using React with custom hooks and Redux-like isolation for accurate piece orientation.
- Implemented unit testing to validate cube transformations and ensure reliability of visual states.