

Erick Watanabe

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TECHNICAL SKILLS

Programming Languages | JavaScript ES6+, Python 3, TypeScript, SQL, HTML5, CSS

Front-End | React, Next.js, Vite, Tailwind, Redux Toolkit, DOM manipulation

Back-End | Node.js, Django 4, PostgreSQL, MongoDB, FastAPI

AI/ML & LLMs | RAG, LangChain, Vector databases (Chroma), OpenAI API, Prompt engineering

PROFESSIONAL EXPERIENCE

Staff Scientist | Blue Marble Space Institute of Science

NASA's AI Curation Tool | *Next.js, TypeScript, Tailwind CSS, FastAPI, Python* 2025 - current

- Built a *library of reusable, accessible React*/TypeScript components with standardized props patterns and responsive CSS, enabling consistent UI implementation across the platform
- Implemented **accessibility best practices (WCAG compliance)** throughout the *React* application, including semantic HTML, ARIA labels, keyboard navigation, color contrast ratios, and proper focus management
- Designed and implemented *React frontend interfaces* for AI-powered features, building the complete **full-stack solution** including FastAPI backend routes (RAG pipeline, LLM queries, ingestion) and corresponding intuitive UI components with real-time data visualization
- *Managed a team* of summer interns by assigning project tasks, providing guidance through weekly check-in meetings, and delivering structured feedback to support their professional growth
- Collaborate with team members using Git and GitHub to develop, manage, and integrate new features across multiple branches in a fast-paced development environment

NASA's Space Microbial Culture Collection Portal Page | [Link](#) | 2025

Vite, TypeScript, Tailwind CSS, Django, Python

- Established a **design token** system of *reusable, accessible React*/TypeScript components with standardized props patterns, **consistent styling** via Tailwind CSS, and **WCAG compliance (ARIA labels, color contrast ratios, keyboard navigation, semantic markup, ect.)**
- Architected solution to serve **React** SPA through Django by implementing custom view logic for static assets and data files, configuring Vite build process with server-specific base paths, and establishing catch-all URL patterns to support client-side routing while maintaining API endpoint access
- Developed interactive data table using **TanStack React Table** with multi-term search, sorting, and pagination to filter 3,000+ microbial research samples in real-time

Full Stack Engineer Contractor | Valter Tennis | [Link](#) | *Next.js, Firebase, TypeScript* 2024 - 2025

- Created a responsive main navigation bar for the website, ensuring seamless functionality across devices, which led to a 54% increase in clients accessing the site through mobile browsers
- Spearheaded feature development to boost user engagement and drive purchases, overseeing UI/UX design, backend architecture, and integration with existing codebase

EDUCATION

Hack Reactor | Advanced Software Engineering Certificate 2023

California State University, Long Beach | M.A. Experimental Physics 2016

The University of California, Merced | B.A. Physics 2011