

Mickey W. Zheng

Full-Stack Software Engineer

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PROFESSIONAL SUMMARY

Full-stack software engineer with 4+ years of experience building scalable web applications using React, Next.js, Node.js, and AWS. Proven track record of owning end-to-end product development, improving data workflows through automation, and delivering production systems. Experienced in leading small initiatives, mentoring engineers, and designing maintainable, user-focused solutions.

SKILLS

Frontend: React, Next.js, TypeScript, JavaScript, Material UI, Bootstrap, CSS, HTML, AG Grid

Backend: Node.js, Express.js, RESTful APIs, OpenAPI, Strapi, NoSQL

Cloud & DevOps: AWS (Lambda, S3, DynamoDB, ECS, ECR, Step Functions, OpenSearch), Docker, Azure Pipelines, Vercel

Tools: Git, Jest, CI/CD, Agile/Scrum, Azure DevOps, GitHub Copilot

EXPERIENCE

Software Engineer I / II

[J. Craig Venter Institute](#)

Dec 2021 - Present
Rockville, Maryland

- Owned development and maintenance of public website and multiple internal applications, delivering 20+ features that enhanced user workflows and user experience for stakeholders.
- Designed and developed an automated data curation workflow using PubMed E-utilities API, reducing manual processing time and improving data accuracy across multiple projects.
- Designed and implemented multiple RESTful APIs using Node.js and Express, integrating AWS services (Lambda, S3, DynamoDB, OpenSearch) to support scalable data processing workflows for project applications.
- Integrated Strapi CMS on public website to enable editor-driven content publishing freeing up valuable developer resources.
- Improved deployment reliability by implementing CI/CD pipelines using Azure Pipelines, reducing manual deployment errors and streamlining release process.
- Co-developed a customizable reusable React component library to standardize application for cross-project use, improving development efficiency and consistency.
- Collaborated with researchers, designers, and QA; led a small agile team (~5) as primary developer on focused initiatives.

PROJECTS

[CEIRR Network](#)

Team Developer | Work (JCVI)

Public research network supporting collaboration, scientific communication, and content publishing for research partners and stakeholders.

Technologies: Next.js, TypeScript, Strapi CMS, Node.js, Azure Pipelines, AWS

- Built and maintained public-facing research platform used by cross-institution collaborators.
- Collaborated within a 15+ member cross-functional team (researchers, communicators, designers, QA) to deliver research-facing web experiences.
- Owned development of most public-facing pages and delivered 20+ features across the public site and internal portal (content publishing, search, user workflows).
- Built reusable tools and npm packages for OpenSearch query generation and integrated CI/CD with Azure Pipelines for automated deployments.
- Worked across multiple codebases and collaborated with team members to ensure seamless integration and functionality across project applications.

[Flu Hub](#)

Team Developer | Work (JCVI)

Flu Hub is a centralized website dedicated to cross-NIAID networks, programs, and resources supporting the National Institute of Allergy and Infectious Diseases (NIAID) Universal Influenza Vaccine Strategic Plan.

Technologies: Next.js, TypeScript, Strapi CMS, Node.js, Azure Pipelines, AWS, AG Grid

- Collaborated with the team to develop and update pages to support NIAID influenza vaccine resources.
- Implemented Strapi templates and editor workflows to empower non-technical content editors and reduce engineering support for content updates.
- Co-developed a search page to allow the scientific community to easily sift through biospecimen data and request samples for research purposes.

[Human Salivary Proteome](#)

Primary Developer | Work (JCVI)

Community-focused portal for exploring 1,000+ human salivary proteins, associated metadata, and scientific literature.

Technologies: React, Node.js, Express, AWS, D3.js, Docker, Python

- Led full-stack development of a scientific data platform indexing 1,000+ protein records
- Designed search and visualization features to improve data discoverability using D3.js and AWS OpenSearch.
- Implemented data analysis pipeline, integrating AWS services and external EBI services to allow users to run automated analysis.
- Led a group of interns in development efforts and collaborated with scientific team members to design features and ensure data accuracy.

EDUCATION

University of Maryland, College Park
B.S. Computer Science

2016 - 2020
College Park, MD