

CHANG (MANFORD) ZENG

New Zealand

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WWW: <https://www.cspartner.org> (Website independently developed, deployed, and maintained))

PERSONAL STATEMENT

Master of Information Technology graduate with First Class Honours from the University of Waikato, holding full work rights and a New Zealand full driver's licence. Experienced in building secure, production-ready web applications using **ASP.NET Core, C#, Clean Architecture, EF Core, and a React + TypeScript front-end**. Also gained local industry experience through an internship at Veridian and currently working remotely with Outlier as an AI training contributor. **Strong willingness to learn, with a positive, team-oriented mindset**, and actively seeking a software engineering role in New Zealand, with full relocation flexibility.

TECH SKILLS SUMMARY

Backend & Architecture

- ASP.NET Core, C#, Entity Framework Core, Clean Architecture
- RESTful API design and development, ASP.NET Core Identity
- SOLID principles applied across production-ready projects to ensure modular, extensible, and testable architectures

Frontend

- Razor Views, HTML, CSS
- Working knowledge of React, TypeScript, and JavaScript for front-end integration

Databases

- SQL Server (EF Core migrations, LINQ)

- MongoDB

Cloud, DevOps & CI/CD

- Azure: App Service, Azure SQL Database, Azure Blob Storage, Azure Key Vault, Managed Identity
- AWS: EC2, S3, CloudWatch, IAM
- CI/CD: GitHub Actions (YAML-based pipelines)
- Environment-based configuration and secure secret management across development and production

AI & Intelligent Systems

- Integration of large language models (Gemini AI, OpenAI) into production web applications
 - Prompt engineering, response evaluation, and output quality control
 - Practical experience designing AI-assisted features using RESTful APIs

PROJECT EXPERIENCE

REACT + .NET

Full Stack Web Developer

Project Description

CSPartner is a cloud-native, AI-integrated, full-stack video sharing platform built to demonstrate production-ready engineering practices and modern web architecture. The system allows users to upload and manage gameplay videos, interact through comments and likes, and maintain personalized user profiles, with a strong emphasis on scalability, security, and clean separation of concerns.

Live Demo: <https://www.cspartner.org>

Deployed on Microsoft Azure App Service with production configuration and CI/CD

GitHub Repository: <https://github.com/ManfordZeng-waikato/CSPartner>

Tech Stack

- Backend:** ASP.NET Core (.NET 10), C#, Entity Framework Core, Clean Architecture, RESTful APIs
- Frontend:** React 19, TypeScript, Material UI
- Cloud & DevOps:** Microsoft Azure (App Service, Azure SQL), Cloudflare R2, GitHub Actions (CI/CD)
- Security & Auth:** ASP.NET Core Identity, JWT-based authentication
- Real-time:** SignalR
- OpenAI API:** AI-powered video description generation

Project Highlights & Achievements

- Successfully designed and delivered a **production-deployed, cloud-native application**, accessible via a custom domain and actively running on Microsoft Azure.
- Implemented a **direct-to-cloud video upload architecture** using pre-signed URLs and Cloudflare R2, significantly reducing backend load and improving scalability for large media uploads.
- Built a **real-time, threaded comment system** with SignalR, enabling live updates and interactive user

engagement without page refreshes.

- Applied **Clean Architecture and CQRS patterns** across the backend, resulting in a modular, testable, and maintainable codebase suitable for long-term extension.
- Implemented **secure authentication and authorization** using ASP.NET Core Identity and JWT, supporting role-based access control and protected APIs.
- Established **automated CI/CD pipelines** with GitHub Actions, enabling reliable builds, automated testing, database migrations, and zero-touch production deployments.
- Integrated comprehensive **API documentation and testing workflows** with Swagger and Postman to streamline frontend-backend collaboration and debugging.
- **AI Integration & Future Enhancements:**

The platform uses AI for semantic enrichment instead of direct video analysis, prioritizing reliability, cost efficiency, and deterministic behavior, while remaining extensible for future multimodal AI and recommendation features.

VERIDIAN SOFTWARE

Hamilton

Intern

11/2024 to 04/2025

Project Description

Developed a full-stack web application for automated image captioning using Gemini AI, enhancing accessibility and ADA compliance. Features include image upload, search, filtering, caption review/approval, and metadata download, with a focus on performance, security, and user experience. Worked closely with teammates and end users to understand requirements and deliver practical solutions.

Tech Stack

- **Backend:** Node.js, Express.js, MongoDB
- **Frontend:** React
- **Security:** AES encryption, SHA-256 hashing, AWS Cognito authentication
- **AI Integration:** Gemini AI API, OpenAI CLIP
- **DevOps & Tools:** GitHub, Postman, RESTful APIs

Key Responsibilities & Achievements

- Built 6+ RESTful backend APIs for caption generation, image filtering, and metadata editing, enabling full automation of image workflows.
- Integrated Gemini AI + OpenAI CLIP to achieve >90% context accuracy in large-scale image captioning.
- Implemented secure AWS Cognito authentication, preventing 0 security breaches during deployment.
- Optimised MongoDB indexing & asynchronous processing, boosting query speed by ~65% and cutting API latency to
- Led GitHub setup & backend code management in a 4-member Agile team, reducing onboarding time by 40%.
- Integrated backend with React frontend, achieving 100% API compatibility and near-zero data mismatch bugs.
- Resolved encryption issues using SHA-256 + AES, ensuring 100% data integrity.
- Delivered WCAG 2.1 AA-compliant system, earning formal positive feedback from Veridian.

EDUCATION

MASTER OF INFORMATION TECHNOLOGY

03/2025

University of Waikato, Hamilton, New Zealand, NZ

LINKS

- LinkedIn: <https://www.linkedin.com/in/chang-zeng-manford>
- GitHub: <https://github.com/ManfordZeng-waikato>

ADDITIONAL WORK EXPERIENCE IN NZ

Catering Assistant, Montana Group, Hamilton

February 2024-Current

Provided food service support to on-campus residents in a high-volume dining environment while completing postgraduate study. Gained hands-on customer service experience by assisting with meal preparation, serving food, and ensuring hygiene and food safety standards. Collaborated with kitchen staff to meet dietary needs (e.g., vegetarian, gluten-free), and contributed to a welcoming dining experience for domestic and international students.

REFERENCES

References available upon request.