CHANG (MANFORD) **ZENG**

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Personal Statement

I am a First Class Honours Master of Information Technology graduate from the University of Waikato, currently holding a full New Zealand driver's licence and a valid work visa until 2028. With local experience gained through a development internship and part-time roles during my studies, I have developed practical skills in full-stack development, cloud services, and secure system integration. I am now actively seeking an entry-level or junior role where I can contribute to a motivated team, further develop my technical capabilities, and begin a long-term career in New Zealand's tech industry.

Skills Summary

- **Full-Stack Web Development**: Experienced in designing and developing scalable web applications using Node.js, Express, React, and Next.js.
- **Cloud Services (AWS)**: Hands-on experience with AWS services including EC2, S3, DynamoDB, IAM, Lambda, SQS, SNS, and Elastic Beanstalk for secure, scalable deployments.
- **API Design & Integration**: Skilled in building and testing RESTful APIs using Express and Postman, with practical integration of third-party APIs such as Gemini AI and AWS Cognito.
- **Database Management**: Worked with MongoDB and Amazon DynamoDB; proficient in schema design, indexing optimization, and secure data handling using encryption (AES, SHA-256).
- **Security & Authentication**: Implemented secure login systems with token-based authentication and cloud identity services (AWS Cognito); applied encryption techniques for sensitive metadata.
- **Agile & Version Control**: Comfortable working in Agile teams with Git/GitHub workflows, including branching, merging, and code reviews.
- **Problem Solving & Debugging**: Strong analytical and debugging skills applied to production-level API issues, encryption workflows, and asynchronous data processing.
- **Documentation & Communication**: Produced high-quality technical documentation and collaborated with diverse teams and stakeholders to deliver solutions aligned with user needs.

Project Experience

Intern   **11/2024 to 04/2025**
Veridian Software   **Hamilton**
Project Description

Developed a full-stack web application to automate image caption generation using Gemini AI, designed to improve accessibility for digital media collections and meet ADA compliance. The application enables users to upload, search, and filter images; generate, review, and approve captions; and download updated metadata. The project focused on performance, security, and user experience.

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, JSON, RESTful APIs

Key Responsibilities & Achievements

- Designed and implemented backend APIs for caption generation, image filtering, and metadata editing.
- Integrated Gemini AI and OpenAI CLIP for scalable and context-aware image captioning.

- Developed login/authentication functionality using AWS Cognito.
- Collaborated in a 4-person Agile team; set up the GitHub repository and managed backend codebase.
- Integrated backend with React frontend, ensuring API consistency and application usability.
- Optimised MongoDB indexing and asynchronous processing for handling large image datasets efficiently.
- Identified and resolved encryption-related filtering issues by combining SHA-256 and AES encryption.
- Received positive feedback from Veridian for system performance, usability, and compliance with accessibility goals.

Cloud-Based Food Ordering System

Uni Project **Hamilton**

Project Description

Designed and implemented a scalable web-based food ordering platform to address challenges faced by students on campus in accessing affordable, nutritious meals. The system allowed users to browse menus, place and track orders, and enabled administrators to manage items and orders. It was fully deployed on AWS using a variety of managed services to ensure performance, scalability, and security.

Tech Stack

- **Frontend:** Next.js, React.js
- **Backend:** Python, Node.js
- **Database:** MongoDB, Amazon DynamoDB
- **Cloud Services:** AWS EC2, S3, CloudFront, IAM, Lambda, SQS, SNS, CloudWatch

Key Responsibilities and Achievements.

- Developed secure login and registration modules using Python backend and DynamoDB with hashed credentials.
- Designed and enforced AWS IAM policies for secure access to services and user data.
- Created detailed technical documentation outlining architecture, deployment, security mechanisms, and service workflows.
- Contributed to infrastructure deployment using AWS Elastic Beanstalk and CloudWatch for monitoring.
- Integrated SNS and SQS for real-time order notifications and queue handling to support high concurrency.
- Collaborated in a cross-functional team using Agile methodology; participated in sprint planning and GitHub-based version control.

Education

Master of Information Technology **03/2025**

University of Waikato Hamilton, NZ

Additional Work Experience in NZ

Catering Assistant, Montana Group

February 2024-Current*(During study)*

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.

Hobbies and Interests

- E-Sports: Over 3000 hours in CS2, FACEIT platform experience, played with AU pro players.
- Sports & Fitness: Badminton and pool enthusiast; maintain regular fitness routine.

References

References available upon request.