Haochen Zhang

Phone: +86 19198026326
Email: holden4study@gmail.com
Personal Website: https://zhang-holden.github.io

EDUCATION

The University of Auckland, Auckland, New Zealand **Apr. 2025 – Mar. 2027 (expected)**
Master of Infrastructure Asset Management (Research Pathway)

- **Thesis:** *A Blockchain-Based Trusted Whole-Life Carbon Assetisation Architecture for EV Charging Infrastructure*
- **Courses:** Infrastructure Asset Management; Big Data Management; Climate Adaptation of Infrastructure; Research Methods for Engineers; Sustainability and Life Cycle Assessment; Smart Infrastructure Analytics
- **Overall Average Grade:** B

Changsha University of Science and Technology, Changsha, China **Sep. 2020 – Jul. 2024**
Bachelor of Engineering Management

- **Thesis:** *A Bi-Level Optimisation Method for Road Maintenance Decision-Making*
- **Grade:** 79.14

RESEARCH INTERESTS

- Blockchain & Smart Contracts in Infrastructure
- Life Cycle Assessment (LCA)
- Multi-Objective Optimisation Algorithms
- Infrastructure Asset Management
- Construction Management

RESEARCH EXPERIENCE

Master's Thesis

The University of Auckland Advisor: Dr. Hongyu Jin

- Conducted a systematic literature review following PRISMA guidelines to evaluate existing studies and identify critical research gaps in carbon management for EV charging networks.
- Proposed a whole-life carbon assetisation framework integrating blockchain and smart contracts for EV charging infrastructure, exploring its potential to address limitations in existing methodologies, including the Verra methodology VM0038.

Course Project: Sustainability and Life Cycle Assessment

The University of Auckland & Rescued Kitchen, New Zealand Advisor: Dr. Febelyn Reguyal

- Collaborated with Rescued Kitchen, a local eco-enterprise in New Zealand, to conduct a comprehensive LCA on their upcycled flour product. Evaluated the environmental impacts across the product's life-cycle stages, providing data-driven insights and actionable recommendations to support the company's sustainability initiatives. (Project Results)

Bachelor's Thesis

Changsha University of Science and Technology Advisor: Dr. Zhongxiang Chang

- Formulated a bi-level optimisation model to address the complexities of road maintenance decision-making, and developed a customised hybrid GA–NSGA-II algorithm with problem-specific operators to significantly improve the model's search capability and solution efficiency.
- Presented the core methodology and research findings as a poster at the 2024 World Transport Convention (WTC), after the abstract was accepted.

SKILLS

- **Programming & Data:** Python, Solidity, XML, XPath, XQuery, Knowledge Graphs, LaTeX
- **Engineering & Design:** Revit, AutoCAD
- **Life Cycle Assessment:** LCA workflows, openLCA