

CHEN CHEN

INDUSTRIAL AI SPECIALIST

Driving Innovation in Smart Construction and Manufacturing

CONTACT

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AI CAPABILITIES

Industrial AI Solutions

Practical AI applications and decision support for construction and manufacturing.

Smart Production Planning

Precast scheduling, mould allocation, workforce planning and production constraints.

Digital Innovation

Digital building models, simulation and workflow automation.

AI Capability Development

AI learning programmes for students and professionals.

CERTIFICATIONS

Certified Adult Trainer

ACLP

Advanced Certificate in Learning and Performance

DDDLP

Diploma in Design and Development of Learning for Performance

EDUCATION

PhD Construction Management

National University of Singapore | 2016

MSc Naval Architecture and Marine Engineering

University of Michigan | 2006

MEng Naval Architecture, Ocean and Civil Engineering

Shanghai Jiao Tong University | 2005

BEng Transportation

Shanghai Jiao Tong University | 2002

PROFESSIONAL PROFILE

Industrial AI specialist and entrepreneur with a strong research background, a PhD in Construction Management, publications in leading international journals and peer-review experience. Translates research into practical solutions, having successfully developed a production planning and scheduling system for a leading precast company in Singapore. A certified adult trainer, helping professionals apply AI effectively at work.

PROFESSIONAL EXPERIENCE

Entrepreneur

Kaizen AI and Mentor Town Consultancy | Jan 2025-Present

- Lead Kaizen AI and Mentor Town Consultancy Pte Ltd as digital transformation partners for Singapore’s construction sector.
- Deliver workforce upskilling focused on digitalisation and advanced manufacturing through industry engagement.
- Planning and scheduling for precast companies: Developed an application for prefabricated bathroom unit (PBU) panel production, integrating CAD and Excel inputs, mould allocation, schedule generation and rescheduling.
- Implemented heuristic optimisation with panel geometry, mould capacity and storage feasibility checks, Gantt schedules, production tracking and performance reporting.

www.kaizen-sg.ai | www.mentortownsg.com

Part-time Lecturer

Nanyang Technological University | Feb-Jul 2025

- Taught GP8000 Artificial Intelligence, introducing AI literacy to university students.

Senior Research Fellow

Nanyang Technological University | Apr 2023-Dec 2024

- Researched leagile supply chains and zero-carbon buildings; supervised final-year projects and PhD research.
- Co-PI on submitted proposals for a digital twin decision support system for sustainable façade retrofits (2023) and a generative AI-assisted facility management system for public healthcare facilities (2024).
- Taught graduate research methods and professional courses on smart buildings and green technology.

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RESEARCH AND INDUSTRY EXPERIENCE

EARLIER EXPERIENCE

Professor | Tongji University May 2021-Mar 2023

Submitted proposals on digital twin based precast scheduling and BIM embodied carbon automation. Selected for the National Talent Program; supervised PhD students and taught scientific writing.

Visiting Scientist | Nanyang Technological University Jun 2022-Jan 2023

Researched precast planning and lean supply chains; submitted proposals on agile supply chains, event-driven production control and Industry 4.0 manufacturing.

Research Fellow | Nanyang Technological University Jun 2015-Mar 2021

Researched scan-to-BIM, integrated digital delivery, automated PBU production scheduling, facility layout optimisation and maritime sustainability.

Research Associate | National University of Singapore Sep 2013-May 2015

Researched crane location optimisation for construction sites.

Research Engineer | Sembcorp Marine Jurong Shipyard Sep 2008-Aug 2013

Worked on 4D production scheduling, offshore platform and jackup drilling rig design, and newbuild ship design.

Earlier roles: Project Manager / Management Trainee, IBM, China (Feb 2007-Aug 2008); Intern, American Bureau of Shipping, Houston (Jun-Aug 2006).

SELECTED PUBLICATIONS

Industry 4.0 and Precast Production | Corresponding author on all five papers

01 Learning-enhanced differential evolution for multi-mode resource-constrained multi-project scheduling problem in industrial prefabrication. Buildings, 2025.

02 Smart multi-project scheduling and multi-skilled workforce assignment considering learning effects for PBU production. Automation in Construction, 2024.

03 Strategic workforce planning in PBU production: An advanced Markovian approach. Journal of Construction Engineering and Management, 2024.

04 Identifying the promising production planning and scheduling method to Industry 4.0: a literature review. Production and Manufacturing Research, 2023.

05 Flow shop scheduling of hybrid make-to-stock and make-to-order in a distributed precast concrete production system. Cleaner Logistics and Supply Chain, 2023.

INVENTIONS AND AI EDUCATION

- Automatic BIM reconstruction of interiors using Bayesian network — Singapore provisional patent 10202011492P, with Cai Yiyu, 2020.
- Obstacle avoidance routing using goal-oriented and tabu search — copyrighted software, NTU reference 2019-127, 2019.
- Co-author, Empowering Young Minds: An Inspiring AI Course for Children, 2025.

SELECTED RECOGNITION

Huang Jinzhi Research Scholarship (2021) • AUBEA industry relevance scholarship (2018) • Third Prize, ABB National Engineer Paper Competition (2011).