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Links

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Skills

- AI Agent Engineering: Long-horizon Task Agent, Agent Skill & SOP Design, Tool Use, Workflow Design, Vibe Coding (Codex, Hermes, pi)
- AI/LLM & Algorithms: Tokenization, BPE, Transformer, LLM Applications, Reinforcement Learning, DQN
- Python, SQL, Matlab, Git, Pandas, NumPy, GeoPandas, Matplotlib
- Autonomous Driving & ITS: V2X, Sensor Fusion, Trajectory Analysis, SUMO, TraCI, VISSIM, VISUM, PTV Optima
- QGIS, CAD, ANSYS
- LaTeX, Markdown, Microsoft Office

WORK EXPERIENCE

Sihe Information Technology Co., Ltd., Harbin, China

AI Agent Developer

JUN 2026 – PRESENT

- Designed and developed Long-horizon Task Agents and reusable Agent Skills (SOPs) for complex task decomposition, sustained execution, state management, and tool calling; researched fundamental LLM mechanisms (Tokenization, BPE) and model distillation (Teacher–Student, knowledge transfer, model lightweighting).
- Drove fast iteration on complex projects using agent tools (Codex, Hermes, pi) for vibe coding, code generation, and debugging.

IABG Industrieanlagen-Betriebsgesellschaft mbH, Munich, Germany

L4 Autonomous Driving & Intelligent Transportation Systems Engineering Intern

JUL 2025 – FEB 2026

- Worked on the Mobility Innovation Campus (MIC) L4 autonomous driving test site, conducting R&D and engineering validation of autonomous driving and intelligent transportation systems.
- Fused Camera, LiDAR, Radar, and V2X infrastructure information with BEV scene representation for complex traffic scene understanding and intersection coordination.
- Developed Python-based data processing and real-time traffic interaction/control logic (RSU/OBU, SPaT, V2X), and supported trajectory analysis, L4 system testing, and scenario validation.

ST Engineering Urban Solutions Ltd., Singapore

Traffic Engineer Intern

AUG 2024 – FEB 2025

- Automated VISSIM simulation workflows in Python and built, calibrated, and optimized PTV VISUM/Optima models for traffic operations analysis, travel demand, and control optimization.
- Integrated multi-source road network, GIS, detector, and OD data (QGIS, GeoPandas, Pandas, SQL) for ITS model optimization, traffic state analysis, and travel demand forecasting.

EDUCATION

Technical University of Munich Asia (TUM Asia) Master of Science (M.Sc.) in Railway Engineering

SINGAPORE, GERMANY SEP 2023 – FEB 2026

Relevant Courses: Traffic Operation and Control (ITS), Transportation Modelling and Simulation tools, Rolling Stock, Trackwork, Public Transport

Thesis subject: Simulation-Based Bidirectional Control between AVs and Adaptive Traffic Signal Control Using Real-World V2X-Infrastructure

University of Leeds/Southwest Jiaotong University (Joint Program) Bachelor of Engineering (BEng) in Civil Engineering with Transport

CHINA, UK SEP 2019 – JUL 2023

Relevant Courses: Structural Design and Analysis, Railway Engineering, Highway Engineering, Transport Planning and Modelling

Thesis subject: Influence of Sasobit on Physical and Chemical Properties of Asphalt

Driving World Models for Closed-Loop Simulation and Responsive Traffic Worlds

RESEARCHER (INDEPENDENT STUDY / SURVEY) ONGOING

- Conducting a survey on Driving World Models as learned closed-loop simulators, focusing on environment feedback and traffic response after autonomous vehicles take off-log actions; established a Simulation-Closure framework (Replay-Constrained → Ego-Responsive → Traffic-Reactive), currently in the literature and writing stage.
- Abstracted closed-loop world models across World-State Dynamics, Traffic Response, Sensor Rendering, and Policy Interface layers, building an evaluation framework around Observation Fidelity, Ego-Response Fidelity, Traffic Reactivity, and Closed-Loop Validity.

Simulation-Based Bidirectional Control between AVs and Adaptive Traffic Signal Control Using Real-World V2X-Infrastructure

RESEARCHER (MASTER'S THESIS / IABG-MIC PROJECT) AUG 2025 – JAN 2026

- Built a bidirectional AV-signal control coordination framework on MIC's real-world V2X infrastructure, with a SUMO/TraCI microscopic simulation environment integrating RSU/OBU communication, multi-source detection, and real-time data.
- Designed a DQN-based adaptive traffic signal control algorithm for dynamic phase optimization in mixed traffic, evaluating queue length, delay, efficiency, and robustness under varying V2X penetration and demand scenarios.

AI-Driven Transformation of Modern Transportation Systems

RESEARCHER (TUM ASIA WORKSHOP)

- Analyzed AI's impact on modern transportation across ITS, autonomous driving, smart railways, and traffic management, including effects on operational efficiency, safety, travel modes, and infrastructure coordination.
- Summarized the evolution from traditional to data-driven intelligent transportation systems and authored the paper *AI's Transformation of Transportation in Modern Society*.

Influence of Sasobit on Physical and Chemical Properties of Asphalt

RESEARCHER (BACHELOR THESIS) OCT 2022 – APR 2023

- Analyzed the effects of the Sasobit additive on the physical and chemical properties of asphalt through experimental testing and performance comparison, evaluating improvements for engineering applications.



he/him

Languages

- 🇨🇳 Chinese (Mother tongue)
- 🇬🇧 English (Fluent)

PERSONAL PROFILE

Focused on the intersection of autonomous driving, intelligent transportation (ITS), and AI technologies, with a combined advantage of physical-world mechanism understanding and AI algorithm-based decision-making. During the master's program, designed data-driven traffic control algorithms based on reinforcement learning around V2X and adaptive traffic control, and gained hands-on experience in L4 autonomous driving test site construction and cooperative perception projects. Proficient in Python, SUMO/VISSIM traffic simulation, and scenario modeling, and successfully applied Agent frameworks and Skill design to the abstraction of complex transportation problems and automated workflows. Aiming to leverage next-generation AI/LLM architectures to enhance autonomous decision-making and coordination efficiency in autonomous driving and transportation systems.

Referees

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