

Tong Zhou

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EDUCATION

- **University of Southern California**
- Master of Science in Electrical and Computer Engineering 03/2021-12/2022
- **Northern Arizona University**
- Bachelor of Engineering in Computer Engineering 09/2019-05/2020
- **Chongqing University of Posts and Telecommunications**
- Bachelor of Engineering in Electronic Information Engineering 09/2016-07/2019

PUBLICATION

- T. Zhou and C. Huang, "UAV Automatic Docking Technology Based on Deep Learning," 2020 International Conference on Computing and Data Science (CDS), Stanford, CA, 2020

PROFESSIONAL EXPERIENCE

Trace Hotel Management Co., Ltd. | Lead Engineer & Full-Stack Developer 10/2024-Present

Leading digital transformation initiatives, system architecture, and cross-department collaboration to deliver scalable technology solutions for business expansion, cost reduction, and service excellence.

- Spearheaded PMS integration with hotel mini-programs, OTA, and POS systems, increasing booking conversion by 30% across 10+ properties.
- Built a unified BI platform consolidating revenue, refunds, and customer data; implemented anomaly detection and automated alerts via DingTalk, preventing 100+ financial risk incidents.
- Designed and launched a gamified employee incentive platform with ranking tiers and rewards, boosting positive customer feedback by 22% and improving engagement.

IoT & Operations Management Platform | Lead Engineer & Full-Stack Developer 04/2025-11/2025

Designed and implemented a microservices-based EV charging IoT platform, integrating device telemetry, alerting, analytics, and interactive dashboards.

- Developed real-time monitoring via EMQX (MQTT) + WebSocket/STOMP, enabling second-level device visualization.
- Architected Spring Cloud Gateway + Eureka for unified routing, authentication, and rate limiting.
- Modeled transactional data in PostgreSQL and time-series metrics in InfluxDB, optimizing high-frequency queries.
- Integrated RabbitMQ for async alert and analytics pipelines; added Actuator metrics for observability.
- Built responsive dashboards using React 18, Ant Design 5, and Redux Toolkit; deployed full stack via Docker Compose.

Huawei Technologies Co., Ltd. | Software Engineer 05/2023-10/2024

Core developer in Huawei's Continuous Data Protection (CDP) division, delivering advanced backup and disaster recovery features.

- Led design and implementation of point-in-time file-level recovery, supporting major Linux and Windows disk formats; optimized recovery flow achieving 80%+ performance gain.
- Developed backup consistency verification for management data, enhancing disaster recovery integrity and preventing tampering.
- Refactored the internal microservice communication framework, enabling secure mutual authentication and encrypted inter-service communication.
- Built three internal automation tools, increasing team efficiency and saving over 3 person-months of workload.

SKILLS

C++, Java, Python, JavaScript (TypeScript), SQL, Go (basic)

Spring Boot, Spring Cloud, Flask, FastAPI, RESTful API design, WebSocket, RabbitMQ, MQTT, PostgreSQL, MySQL, Redis, InfluxDB, MySQL, MongoDB, Data Modeling

Docker, Docker Compose, Nginx, Git, Linux, Shell, AWS, Azure, CI/CD pipelines, Agile & Scrum