

Derek Chen

DevOps & Software Engineer · Edge-to-Cloud

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PROFESSIONAL SUMMARY

DevOps and software engineer who builds the bridge between edge systems and the cloud across three industries. From automotive computer vision (3D AVM, ADAS) to autonomous-fleet cloud platforms to firmware CI/CD and DevSecOps, the through-line stays the same: take messy edge systems (cars, routers, sensors) and make them observable, secure, and shippable at scale. Curiosity-driven and disciplined about testing, security, and quality; builds and owns systems from zero.

WORK EXPERIENCE

AncillaryPower — DevOps / Cloud Infrastructure Senior Engineer

2026-04 - Present · Taipei / New Taipei, Taiwan

- Led the migration of a mission-critical platform from on-premises to GCP, implementing Terraform-based infrastructure management and a scalable architecture with capacity planning to support production growth.
- Built zero-downtime CI/CD pipelines with canary deployments and reproducible release management, improving deployment reliability and operational efficiency.
- Implemented DevSecOps practices through integrated security scanning, private networking, secret management, and application-layer authentication.
- Established unified monitoring and alerting, cross-cloud disaster recovery, and database backup strategies that improved platform resilience while reducing cloud operating costs.

Technologies: GCP, Terraform, CI/CD, DevSecOps, Cloud Run

Moxa — Senior Software Engineer

2023-06 - 2026-04 · Taipei / New Taipei, Taiwan

- Designed and managed scalable GitLab CI pipelines for 9 router products across 5 series, ensuring build consistency and reproducibility across hardware architectures.
- Automated build and integration workflows, surfacing integration issues up to 7 days earlier than the manual process.
- Introduced Shift-Left Security: integrated Coverity (SAST) and Nessus (DAST) into daily CI to detect vulnerabilities early without slowing development.
- Built internal automation tools in Python / Shell and stable VM + network test environments for continuous automated testing.

Technologies: GitLab CI/CD, Coverity, Nessus, Python, Shell, DevSecOps

TURING DRIVE — Principal Engineer

2020-07 - 2023-06 · Taipei / New Taipei, Taiwan

- Granted invention patent (sole inventor), Traffic Signal Recognition System and Method (TWI844132B): fuses GPS, HD maps, vision recognition and multi-layer AI decisioning to improve traffic-signal recognition accuracy and reduce misjudgements.
- Built a Vehicle Monitoring System on AWS (EC2 / S3 / Lambda) from scratch, integrating 13 autonomous vehicles (4 types) for real-time tracking and remote control.
- Founded and led the Cloud Operations Team, establishing development workflows, ops standards, and engineer mentorship.

- Integrated edge (ROS / Autoware) with cloud services over MQTT for sub-second-latency real-time fleet management.
- Served as technical lead for government autonomous-driving projects, coordinating algorithm, embedded, and cloud teams to deliver reliably.
- Led full-stack development of the Smart Golf Cart and Passenger Information System (PIDS), pairing self-driving algorithms with intuitive interfaces.

Technologies: AWS, MQTT, ROS, Autoware, Node.js, Vue

WHETRON — Software Engineer (Computer Vision / ADAS)

2015-06 - 2020-06 · Taipei / New Taipei, Taiwan

- Developed 3D Around View Monitoring (3D AVM) algorithms: a Fujitsu-platform version delivered to a Thai car manufacturer (Tier 1 supply chain), and a self-developed version handed off via technology transfer to Whetron China (Suzhou subsidiary), both automotive mass-production grade.
- Built parking-space detection on top of 3D AVM, integrated into automatic-parking products.
- Built a complete 3D AVM system with OpenCV and OpenGL ES, designed to run on any embedded platform (Fujitsu / Nvidia).
- Implemented fisheye-camera calibration, localization, and alignment; integrated HMI and perception for self-driving golf carts with ROS.

Technologies: OpenCV, OpenGL ES, ROS, C++, Nvidia, Fujitsu

SKILLS

AI / ML: RAG (retrieval-augmented generation), LLM apps (Workers AI / Llama 3.3), Embeddings (bge-m3, multilingual), Vector DB (Vectorize), Prompt engineering, Anti-hallucination design

Cloud / Infrastructure: AWS (EC2, S3, Lambda, IoT Core, API Gateway, KVS), GCP (Cloud Run, VPC, VM), Cloudflare Workers, Terraform / Infrastructure as Code, MQTT

DevOps / CI-CD: GitLab CI/CD, GitHub Actions, Jenkins, DevSecOps (Coverity, Nessus), TDD

Programming Languages: C/C++, Python, JavaScript / Node.js, TypeScript, Shell

Computer Vision / Embedded / Robotics: OpenCV, OpenGL ES, ROS / Autoware, YOLO, 3D Reconstruction, Nvidia NX / Arm64

PROJECTS

Resume RAG: Ask my resume

Personal project - AI / RAG + Full-stack · 2026

An /ask page that answers natural-language questions about my experience over a full RAG pipeline on Cloudflare (bge-m3 embeddings, Vectorize search, Llama 3.3 streaming), with anti-hallucination grounding, prompt-injection defense, and per-IP / daily cost guardrails.

Technologies: Cloudflare Workers AI, Vectorize, bge-m3, Llama 3.3, RAG, Astro

devbox: self-hosted URL-shortener SaaS

Personal project - Full-stack + DevOps · 2026

A URL-shortener SaaS wired end to end from git push through CI/CD to automated deployment and live monitoring; Workers API + D1 storage + Analytics Engine click events + cron health checks with Telegram alerts, GitHub Actions gating deploys on green, Bearer auth and least-privilege tokens.

Technologies: Cloudflare Workers, D1, Analytics Engine, GitHub Actions, Astro, TypeScript

US & TW Stock PK: multi-stock return comparison

Personal project - Full-stack + Cloudflare · 2026

A tool to compare 2-5 stocks' dividend-included total return over a date range with a dual-axis SVG growth chart; Worker proxy for the Yahoo Finance API, split-correction logic, URL-based sharing wired to devbox's shortener via a Cloudflare Service Binding, with SSRF/abuse guards.

Technologies: Cloudflare Workers, Pages, D1, Astro, TypeScript, Yahoo Finance API

Router Firmware CI/CD Pipeline (GitLab)

Senior Software Engineer - CI/CD & DevSecOps · Moxa · 2023 - 2026

GitLab CI/CD for router firmware across 9 products / 5 series under high-frequency development (~160 commits/month): Build to SCM artifact to deploy to automated test, with Coverity (SAST) and Nessus (DAST) shift-left security, RDLAB (BVT) and SQA (Regression) on real hardware, built to ISO 26262 functional-safety process requirements.

Technologies: GitLab CI/CD, ISO 26262, Coverity, Nessus, SAST, DAST, Shell, Python

Autonomous Fleet Monitoring & Remote-Control Platform

Principal Engineer - cloud architecture lead · TURING DRIVE · 2020 - 2023

A real-time monitoring and remote-control platform built from scratch on AWS (EC2 / Lambda / S3 / API Gateway) for 13 autonomous vehicles across 4 types; subscribes to on-vehicle ROS topics via AWS IoT SDK over MQTT with bidirectional sub-second control. Founded and led the Cloud Operations Team.

Technologies: AWS, MQTT, ROS, Autoware, WebSocket, Node.js, Vue, IoT Core

Roadside Unit (RSU) Intersection Warning System

Edge computing + cloud integration · TURING DRIVE · 2020 - 2022

Edge-to-cloud intersection warning across the Taoyuan Qingpu autonomous-bus corridor (7 intersections / 11 cameras): YOLO detection on Nvidia NX, V2X warnings over MQTT that reliably triggered the bus to brake and slow across 23 logged warning events.

Technologies: Nvidia NX, YOLO, AWS KVS, Lambda, S3, MQTT, V2X

3D Around View Monitoring + Parking Detection (3D AVI)

Computer Vision / ADAS algorithm engineer · WHETRON · 2015 - 2018

Automotive mass-production 3D surround-view and parking-lot detection built with OpenCV and OpenGL ES, portable across embedded platforms; a Fujitsu-platform version shipped to a Thai OEM and a self-developed version transferred to the Suzhou subsidiary.

Technologies: OpenCV, OpenGL ES, 3D Reconstruction, Fisheye Calibration, C++, Nvidia, Fujitsu

Autonomous Vehicle HMI (Thailand deployment)

Computer Vision / HMI development · WHETRON · 2019 - 2020

On-board HMI for a self-driving shuttle field-deployed in Thailand: real-time passenger dashboard (speed / Auto / route / pedestrian and vehicle detection) and a driver/engineer top-down view with sonar arcs, camera object boxes, and sensor self-check.

Technologies: ROS, WebSocket, HMI, Computer Vision, Ultrasonic Radar, Embedded

EDUCATION

National Kaohsiung First University of Science and Technology

M.S., Computer and Communication Engineering · 2011-09 - 2015-01

LANGUAGES

Chinese (native); English (professional working proficiency)