# Galen Wu

**IDP Backend Developer**

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Chengdu, China

Date of birth 1994.10

## Profile

● Highly skilled AI Algorithm Engineer with extensive experience in **Python development**, **RESTful APIs** (**FastAPI**), and robust database handling.

● Proficient in **Computer Vision**, **Image Processing**, and **OCR technologies** for **document processing**.

●Proven ability in **Multimodal** Generative AI (GPT, Qwen-vl-Max) and fine-tuning pre-trained models using **Hugging Face, OpenAI, PyTorch/TensorFlow**.

● Experienced in deploying Python applications via **Docker**

● Strong advocate for **Git** Version Control, code reviews, and advanced Git operations.

● A collaborative team player with excellent communication skills, adept at prioritizing tasks, debugging, and continuously learning new **AI/document processing tools and frameworks.**

## Education

**Sichuan University of Science and Engineering** | 2013/9 – 2017/6

## Employment History

**Algorithm Engineer, Chengdu Huineng Boyou Technology Co., Ltd.**

March 2024 – May 2025

● Focused on AI product R&D, AGI architecture, and algorithm development.

● Lead 5-10 member teams

**Achievements:**

1. Fourteen enterprises have been approved for the project
2. Enhance the core competitiveness of the product

**Senior Python Development Engineer, ThunderSoft (Chengdu) Co., Ltd.**

July 2023 – January 2024

● Led core R&D for strategic products, participating in requirements analysis and POC phases.

**Development Technical Expert, DataGrand (Chengdu) Co., Ltd.**

June 2020 – July 2023

● Managed software development projects

**Achievements:**

1. Recognition as the sole search expert in the Southwest region
2. Two A-grade promotions.

**Python R&D Engineer, Chengdu Youxinli Intelligent Technology Co., Ltd.**

January 2019 – May 2020

● Responsible for MES project construction and management.

**Python Development Engineer, Chengdu Tianfu Human Resources Development Service Co., Ltd.**  December 2017 – December 2018

● Developed and maintained software modules, including coding and testing.

## Projects Description

**Project: LLM-based Q&A System**  
**Duration:** July 2023 – Present

**Overview:**

A large language model-powered question answering system that integrates retrieval-augmented generation (RAG), document parsing, multimodal input handling, and intelligent intent rewriting to deliver accurate and responsive answers in both general and FAQ scenarios.

**My Responsibilities:**

* Led development and core algorithm design, focusing on domain-specific LLM enhancements.
* Built and optimized intent rewriting models using Transformer-based architectures.
* Solved document parsing and image-based Q&A challenges via multimodal techniques.
* Designed core components including chunking, retrieval, re-ranking, prompt templating, and streaming media nodes.
* Applied Langchain principles to implement chain-of-thought reasoning and multi-path recall.

**Achievements:**

* Achieved 85%+ accuracy on general QA and 97% on FAQs, with 92% recall coverage.
* Improved precision recall via two-stage intent rewriting and disambiguation techniques.
* Successfully deployed a full-stack LLM Q&A system across multiple business use cases.

**Project: Knowledge Graph Q&A Platform**  
**Duration:** July 2022 – July 2023

**Overview:**

A Q&A system powered by a knowledge graph, enabling users to query structured domain knowledge with high accuracy and context-awareness. The system integrated document parsing, semantic search, and recommendation algorithms to enhance user interaction and answer relevance.

**My Responsibilities:**

* Led internal requirement analysis and guided clients in defining their core needs.
* Served as chief engineer, designing the development framework and overseeing API integration.
* Applied advanced techniques including search ranking, knowledge graph algorithms, watermarking, and document parsing (Word/Excel/PDF).
* Estimated workloads, managed schedules, ensured quality delivery, and maintained post-launch stability.

**Achievements:**

* Delivered a stable, scalable knowledge graph Q&A system through multiple product iterations.
* Successfully met all project milestones with high delivery quality and long-term system reliability.

**Project: Intelligent Stability Maintenance System**  
**Duration:** July 2022 – July 2023

**Overview:**

An intelligent early warning and behavior prediction platform designed to support social stability efforts. The system integrated real-time data synchronization, risk modeling, and alert mechanisms to proactively identify and assess potential stability-related events.

**My Responsibilities:**

* Designed system architecture and selected databases; implemented MySQL-binlog-based real-time data synchronization.
* Developed core modules including risk scoring, judgment models, and behavior prediction using AHP, tanh functions, and priority logic.
* Built and refactored key workflows (e.g., clue and personnel reporting); prepared test datasets and implemented unit tests.
* Solved technical challenges (e.g., Elasticsearch7 & Mongoengine integration), refined algorithms, and optimized system architecture.
* Led code quality efforts using Pytest, FactoryBoy, Celery, and pre-commit checks.

**Achievements:**

* Delivered a reliable and intelligent risk monitoring system with proactive early warning capabilities.
* Significantly improved stability event detection accuracy and system robustness through algorithm optimization and architectural refinements.

**Project Group: AI Productions**  
**Duration:** June 2020 – July 2023

**1.Knowledge Graph Big Data Project**  
**Overview:**  
A high-throughput knowledge graph platform built on Neo4j and Hive to process and ingest billion-scale data with automated relationship mapping.

**My Responsibilities:**

* Led Neo4j adaptation for large-scale data and handled full-cycle delivery.
* Designed and deployed automated data pipelines using Hive and big data tools.
* Navigated ambiguous requirements through multiple design iterations to ensure high delivery quality.

**Achievements:**

* Successfully delivered a scalable knowledge graph ingestion pipeline for billion-level datasets.
* Reduced manual mapping workload through relationship automation.

**2.Intelligent Q&A Platform  
Overview:**

A semantic search and question answering system integrating long-text retrieval and Elasticsearch optimization.

**My Responsibilities:**

* Co-developed long-text segmentation algorithms with the algorithm team to enhance Elasticsearch Q&A accuracy.
* Finalized deliverables in collaboration with PMs, testers, and HQ, including DB design documentation.

**Achievements:**

* Improved recall accuracy in Q&A tasks through custom text segmentation.
* Ensured delivery readiness with complete documentation and testing alignment.

**3.Search Product – Mid-end Project  
Overview:**

A reusable search infrastructure project to streamline internal product integration across regions.

**My Responsibilities:**

* Acted as regional lead for Southwest projects, delivering plug-and-play search product solutions.
* Created and maintained technical documentation and led training to reduce repeated mistakes.

**Achievements:**

* Enabled efficient adoption of search products across multiple teams.
* Minimized recurrent errors through proactive documentation and knowledge sharing.

**Cross-Project Responsibilities:**

* **Leadership:** Chief Engineer and Regional Head, coordinating across teams and projects.
* **Technical Expertise:** Proficient in Elasticsearch, Neo4j, Kafka, Hive, and large-scale data processing.
* **Problem Solving:** Specialized in scalability, algorithm tuning, and cross-functional troubleshooting.
* **Knowledge Sharing:** Strong focus on documentation and reusable technical assets.