

CHIA-EN WU

Software, Data & Systems Engineer Intern

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Education

- M.S. Electrical and Computer Engineering*, University of Washington, Seattle, USA Expected 03/2027
- Related courses: Machine Learning Operations, Computer Vision
- B.B.A. Major in Big Data Management*, Soochow University, Taiwan; GPA : 3.9/4 Graduated 06/2024
- Related courses: Web Development, Database Systems, Big Data Application, Cloud Services

Skills

Python, SQL, Node.js, FastAPI, Flask, RESTful API, Docker, Kubernetes, AWS, GCP, PostgreSQL, MariaDB, BigQuery, ClickHouse, Redis ETL, Airflow, Dataflow, RabbitMQ, PySpark, Cloud Run, Cloud Storage, Cloud Logging, Git, CI/CD, Tableau, Kafka, Next.js

Work Experience

- Tencent Technology Co. Ltd. - Data Engineer Intern** 07/2023 – 09/2023
- Assisted in structuring ClickHouse with data layering, source analysis, and hot/cold analysis. Collaborated across departments to optimize data usage, reducing waste and improving platform efficiency by 35%.
 - Developed Python monitoring tools to track server and database metrics. Implemented rule-based alert classification and published events to Kafka, achieving real-time detection with low latency, reducing downtime by 40%.
 - Engineered a big data dashboard with RESTful APIs and several control panels, allowing managers to monitor tasks, execute commands, check timeout events, and track failures, detecting issues early and reducing impact.
 - Coordinated with internal teams to consolidate computation requirements and delivered optimized workflows through algorithm, parallel processing, and resource scheduling enhancements, reducing costs by 25% and accelerating performance by 40%.
- Advant Analytics Tactics Ltd. – Software Engineer Intern** 06/2022 – 06/2023
- Implemented data parallelism via GPU parallelization techniques to optimize genetic algorithms for scheduling a large volume of assignments, achieving a significant 65% acceleration in runtime efficiency.
 - Designed and deployed a scalable parallel web crawler with Python, Docker, and RabbitMQ on AWS EC2, achieving robust anti-bot evasion and processing 150k–600k web pages monthly.
 - Trained and optimized NLP models with IBM Watson Discovery to accelerate pattern recognition in large unstructured datasets, improving search speed by 40% and enhancing data-driven decisions.
 - Designed dashboards with Tableau and MicroStrategy to analyze telecom equipment logs, detect errors and outliers, boost maintenance efficiency by 25%, and cut troubleshooting time by 15 hours/week.
- Brinno Inc. - Software Engineer Intern** 06/2021 – 09/2021
- Developed and deployed Python web scrapers on Heroku to automate data collection into BigQuery, reducing manual work by 70%, and created a dashboard to track product relevance and media impact across 500 news items.
 - Enhanced the company website using PHP Laravel by optimizing shopping cart, order, and warranty pages, boosting checkout conversion by 15%. Integrated Google Analytics to drive data-informed marketing strategies.
 - Built an automated Python data pipeline using YouTube API and BigQuery to process large-scale product data, uncover user behavior patterns, and boost engagement by 18% while cutting manual reporting by 80%.

Project Experience

- Threads Auto-Reply and Media Management Platform** 07/2025 - Present
- Developed a Next.js + FastAPI platform on Cloud Run, secured with Firebase Auth and API Gateway. Integrated Firestore for real-time data, Cloud Storage for scalability, and automated CI/CD via GitHub Actions.
 - Automated content generation using n8n, RSS feeds, PostgreSQL, vector embeddings, and GPT APIs, implementing large-scale data aggregation, generating style-consistent posts, and reducing content production time by 75%.
- Taipei 101 Boutique Marketing Project - Research Assistant** 03/2022 – 01/2023
- Created a marketing analytics platform for Taipei 101 as a full-stack developer, using Bootstrap, Node.js with Express, and MariaDB to analyze department store consumption data and generate insights.
 - Deployed a marketing analytics dashboard using Nginx as a reverse proxy and Docker for consistency. Configured a Linux server for security and performance, enabling scalability and efficient resource utilization for real-time insights.
 - Analyzed consumption and customer information by combining RFM analysis with K-means clustering using the Elbow method for segmentation. Assessed Customer Lifetime Value to develop tailored membership programs.
- KPMG Digital Audit Platform Project - Full-Stack Developer** 01/2022 – 07/2022
- Engineered a digital audit platform that enhanced data analysis efficiency by 60%, utilizing Bootstrap and jQuery to build responsive web pages, designing RESTful APIs with AWS Lambda and API Gateway, deploying on AWS EC2, and managing data using MariaDB, which significantly improved audit processes.
 - Extracted tables from financial PDFs using pdfplumber and performed OCR with Tesseract. Collaborated with accountants to apply audit logic for improved accuracy and efficiency.
 - Developed and deployed a Python Scrapy web scraper to automate financial report retrieval from the Taiwan Stock Exchange, utilizing AWS Lambda and CloudWatch for efficient data collection scheduling.