

# Johnny Chang

BACKEND ENGINEER

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*"Anything worth doing is and will be incredibly hard."*

## Summary

Web developer with 6+ years of prior experience, specializing in backend development. Have done a variety of work from simple content serving websites to modern C10K live streaming platform. Experienced simple development flows and more sophisticated flows. Always looking for challenges to face, problems to solve, and chances to learn new technical skills/tools. Hopes to build rock solid backend services that serve content to millions of people worldwide per day someday.

## Skills

**Languages** Python

**DevOps** Docker, Kubernetes, Github Actions, GCP, Linux, Shell Scripting

**Backend** Flask, MongoDB, Redis, Django (REST framework), PostgreSQL, Celery, RabbitMQ, Redis, Elasticsearch, Memcached

**Languages** Chinese, American English

## Experience

### SWAG

BACKEND/DEVOPS MANAGER

- Managed day to day feature developments/bug triages/emergencies for the SWAG backend team and DevOps team.
- Improved team development velocity by hiring and enabling members for both teams.
- Introduced automation in necessary areas, improved application deployment velocity to over 10+ deploys per day.
- Reduced cloud costs by 20% by application optimizations and leveraging sensible discounts.
- Reduced critical incidents from twice per month to 1 per quarter by leveraging sensible scale-up strategy without increasing the cost.
- Implemented monitoring/alerts/on-call infrastructure with focus on SLA/SLO/SLI.
- Increased stability of low latency live streaming with WebRTC.

Taipei, Taiwan

Aug 2023 - Present

SENIOR BACKEND ENGINEER

Jan 2022 - Aug 2023

- Led assigned feature developments from start to finish.
- Decreased latency of livestreams from 12 seconds to 2 seconds with in-house LLADASH.
- Implemented in-house VoD encoding with various DRM systems (Fairplay/Widevine/PlayReady).

BACKEND ENGINEER

Jun 2020 - Jan 2022

- Maintained/Developed features on a Flask based live streaming service.
- Developed client-server realtime communication with extensive usage of websockets.
- Hands-on experience with video content encoding/encrypting pipelines. Also optimized the pipeline for efficiency and latency.
- Gained basic knowledge of live content delivery through rtmp stream endpoints.

### Unnotech

Taipei, Taiwan

BACKEND ENGINEER

Jun. 2019 - Jun. 2020

- Maintained/Developed features of several Django microservices in a team of 15 engineers.
- Designed and implemented low-latency odds synchronization/limiting system with Celery. It finishes in less than 30 seconds despite the complex business logic and the vast amount of values (72k+) that would need to be adjusted in a singular operation.
- Built and deployed a microservice that issues interest to users every minute. Can serve 10k active users with very basic resources.
- Refactored ancient code that was written when better options were not available (eg: bulk\_update in Django ORM)
- Learned how to deploy Kubernetes microservices on GKE using Helm.
- Optimized 50+ slow endpoints with various techniques such as profiling, object prefetching, algorithm rewrites, migrating data types...etc

### Pi Softwares

Kaohsiung, Taiwan

WEB DEVELOPER

Mar. 2018 - May. 2019

- Designed, implemented and deployed several websites in Python with Django.
- Built fully automated CI/CD pipeline with self-hosted git server and DroneCI for code updates. Reduced deployment time by 70%.
- Built and deployed a highly scalable distributed web crawling system with Scrapy, Ansible and a bunch of single board computers.
- Implemented data ETL pipeline with Kafka, BeautifulSoup, SQLAlchemy.
- Automated boring daily chores (SSL certificate renew, daily database backups) by combining shell scripts and cron jobs.
- Implemented in-site search mechanism with Elasticsearch and fine-tuned it for Chinese.

## Education

### National Dong Hwa University

Hualien, Taiwan

B.S. IN COMPUTER SCIENCE AND INFORMATION ENGINEERING

Sept. 2013 - June. 2017