

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 MANAGER

- Supervise day to day feature developments/bug triages.
- Reduced cloud costs by 20% with reasonable estimations and leveraging sensible discounts.
- Set up SLA/SLO/SLI for backend services.
- Set up on-call structure with automated alerts + PagerDuty.
- Advocated AI.
- Led assigned feature developments.
- Implemented LLDASH to achieve stable livestreams with latency under 3 seconds.
- Implemented VoD encoding with all top DRM systems (Fairplay/Widevine/PlayReady).
- Integrated automatic STT subtitles for VoDs.
- Maintained/Developed features on a Flask based live streaming service.
- Developed features using a combination of event-based approach and asynchronous message queue architecture.
- Incorporate usages of MongoDB aggregations and update pipelines to achieve atomicity on update queries.
- 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.
- Leveraged Github Actions for CI actions such as building and pushing images, creating releases and automated release notes.
- Properly document coding guidelines and conventions inside the team for easier enforcement during code review and development.

Taipei, Taiwan

Aug 2023 - Present

Senior Backend Engineer SWAG Taipei, Taiwan Jan 2022 - Aug 2023

Backend Engineer SWAG Taipei, Taiwan Jun 2020 - Jan 2022

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BACKEND ENGINEER

- Maintained/Developed features of several Django microservices.
- Designed and implemented low-latency odds synchronization/limiting system by mainly using Celery asynchronous tasks. The whole process can be done in less than 30 seconds despite the complex business logic and the vast amount of values (worst case 72k) that would need to be adjusted in one single 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.
- Integrated Silk into code base for easier endpoint performance analysis and optimization.
- Optimized 50+ slow endpoints by utilizing techniques such as prefetching objects from databases, revamp the algorithm, leverage suitable but faster data types...etc
- Collaborated with a 15-men team using Git with a modified version of git flow.
- Mentored new comers and help them get on track on time.

Taipei, Taiwan

Jun. 2019 - Jun. 2020

Pi Softwares

Kaohsiung, Taiwan

WEB DEVELOPER

Mar. 2018 - May. 2019

- Designed, implemented and deployed several websites in Python with Django framework from scratch.
- Built fully automated CI/CD pipeline with self hosted git server and DroneCI for code updating. Reduced deployment time by 70% and eliminated all human command line errors and repetitive work.
- Built and depolyed 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 usage by installing and configuring related packages.
- Used Google PageSpeed Insights tool to measure website performance and optimize websites for better user experience.
- Optimized static file serving with self-compiled Nginx with PageSpeed module.
- Implemented connection pooling between PostgreSQL databases and applications.
- Set up logging for backend applications with Elasticsearch, Kibana, Filebeat (Nginx), Prometheus, Grafana and Sentry.

Education

National Dong Hwa University

Hualien, Taiwan

B.S. IN COMPUTER SCIENCE AND INFORMATION ENGINEERING

Sept. 2013 - June. 2017