

Nathan Yin

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Objective

My end goal as a software engineer is to develop and architect end-to-end distributed system design at a massive scale. I have taken the first step; from Agile Proposal to the deployment of a single-server web application with caching and monitored system metrics. I still have much to learn, but I genuinely try to make an effort every day.

I am hungry for experience in the industry. I have developed code across the full-stack, but I am most well-versed in problem-solving in the backend and database layers. I am particularly interested in Cybersecurity, DevOps and Big Data Management. I'm learning the lead guitar and vocals in my first band (and improving very slowly every day!). I like to travel, to see the world, and play board games.

Education

Bachelor of Computer Science (Databases) | University of New South Wales

February 2020 – Present

Final Year Student. Expected Graduation: November 2023.

Relevant Coursework:

1. COMP9313 Big Data Management.
2. COMP9315 Database System Implementation.
3. COMP3891 Extended Operating Systems.

Skills

Programming Languages: Python, Java, Scala, SQL, Javascript, C

Platforms: Linux (Ubuntu, Slackware, Debian)

Software: PostgreSQL, Docker, Django / FastAPI / Flask (Python), Prometheus + Grafana, , redis, HTTP, Git, Jira, HDFS, Spark, Kafka, Flink, React, BigQuery, dbt, Github Actions

Communication: Agile methodology, Data Modeling (UML, relational models, dimensional modeling), Google Data Studio

Projects

<http://memefeed.xyz>

December 2022- Present

Github: <https://github.com/Yinnerston/memefeed>

Dockerised individual Django web application to provide robust search capabilities on Reddit submissions and image feed.

- I utilised the approach to scope project requirements, identify competitors and design architecture
- Scheduled daily cronjob ETL script using PRAW to pull top submissions into my application
- Implemented monitoring of Django application, caching and docker container metrics through Prometheus + Grafana Dashboarding. Combine this with error tracking using Sentry.
- Implemented per-page caching with a redis and researched optimisation for PostgreSQL within the Django ORM to reduce the average page load time by 5-20x compared to the naive approach.
- Separated development and production environments and deployed the site locally with a Nginx web server
- I have plans for LTS with this project. I want to re-implement popular frontends such as TikTok's desktop view, take a deep dive into web-application security, and add asynchronous task queues for eventually consistent text extraction using Tesseract OCR with an indexed full-text search on the contents.

Check out my [Github](#) for some other projects like [Stream Data Processing](#) or [Google Cloud Data Pipeline](#).

Experience

University of Western Australia | Online

Casual 2020-2022

Research Assistant / University of Western Australia Law School

Modeled data for seminar slides using Microsoft Office Suite for Professor Rick Krever and Peter Mellor.

Activities

Yessoku Band 2023 | Sydney. Lead Guitarist and vocalist.

Bushcare Volunteer 2019 | Sydney, Hornsby Shire Council.

UNSW CSE Hackathon 2022 | Sydney, UNSW. Team project using Docker, React, and Google API calls to create a chrome extension that displays related search terms to highlighted text