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Aditya Agrawal

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GitHub
Homepage
Codechef

Work Experience

Software Engineering (Intern) - Stockal **January 2022 - July 2022**

- Primary developer on the **P&L calculation** project and was a key member till the term.
- Done work around transaction data and further calculations and providing the same to service partners and clients, reducing manual work of OPs team to 0% and introduce third party integration
- Worked on stock **prices** to provide ticker price data for multiple features and calculations and candlestick **charts for technical analysis** using **TradingView** advance charting library
- Worked on data migration from **NoSQL** to **SQL** databases
- Worked on **Authentication, Logging** and other **middlewares** to reduce rewriting of code across multiple projects
- **Technologies Used:** DB -> TimescaleDB, AWS RDS, MongoDB, Redis | Backend -> NodeJS, Python, Golang | Others -> AWS

Projects

TNP Portal **Project | Gitlab**

- Common portal for students and companies to manage placements in the institute
- **Rate limiting** (Authentication token based - fallback to IP) backed by **Redis**
- **Horizontally Scalable** application.
- Automatic expiry of incomplete user profiles using **Redis Pub/Sub**
- **Tech Stack:** Front-end -> NextJS, MaterialUI | DB -> Postgres, Redis | Backend -> NodeJS, Firebase Storage | Others -> Redis Pub/Sub, Helmet.js

status-cron **Project**

- A cron service to keep track of health of your services.
- Supports multiple service types (HTTP, Redis, SQL [Postgres, MySQL, Oracle], MongoDB)
- Works by sending a connection request to the service and adds an entry of the result to a Postgres database
- Helpful for tracking multiple services in a minimal form with flexibility to use the data acquired as wanted
- **Tech Stack:** Golang

Work Stealing Dequeues, Pull based work balancing **Sup.: Dr. Sathya Peri, Professor, CSE-IITH** **Github**

- Understand and Implement a work stealing dequeue to balance work among idle and loaded threads
- Implementation of the model in a multi-core environment
- Explore possible improvements and implementation in a distributed environment (balance multi-region load, etc.)

DF-GAN, Text to Image Generation **Sup.: Dr. CKM, Professor, CSE-IITH** **Github**

- Understand the architecture and working of Deep Fusion Generative Adversarial Network
- Implementation of the model and reproduce IS and FID scores for comparison
- Explore possible improvements in the architecture

Technical Skills

Programming Languages	JavaScript, Golang, Python, C++, C
Databases	Postgres, Mongo DB, Redis, TimescaleDB
Frameworks	Next JS, Express JS, Material UI
Systems	Linux, AWS, Digital Ocean, Heroku

Education

Bachelor of Technology - Computer Science and Engineering, **July 2019 — June 2023**
Indian Institute of Information Technology, Raichur
CGPA (Current): 8.58/10.00

XII, CBSE, Grades: 85% **2018 — 2019**

Courses

Institute Courses

• Data Structures • Algorithm Design and Analysis • Operating Systems • Software Engineering • Database Management Systems • Computer Architecture • Parallel and Concurrent Programming • Computational Methods • Advanced Algorithms • Digital Image Processing • Scalable Algorithms for Data Science

Online Courses and Certifications

- Google Cloud Platform Fundamentals: Core Infrastructure
- The Bits and Bytes of Computer Networking by Google
- Deploy to Kubernetes
- Qwiklabs Quests (AWS and GCP technologies)

Volunteer Experience

Teaching Assistant, Indian Institute of Information Technology Raichur — Sep 2020 — Present

- Introduction to Programming (under Dr. Rakesh Venkat, IITH)
- Operating Systems - 1 (under Dr. Sathya Peri, IITH)
- POPL (under Dr. Sadhana Jha, IIITR)
- Design and Analysis of Algorithms (under Dr. Ramesh Jallu, IIITR) — (Present)