NGUYEN TIEN THANH

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EDUCATION

HO CHI MINH UNIVERSITY OF TECHNOLOGY, *Bachelor of Engineering, Computer Science* *Vietnam, Nov 2022*

EXPERIENCE

RAKSUL INC.

Ho Chi Minh, Vietnam
July 2021 - Dec 2024

Growing Japan-based startup with multiple business lines (designing & printing services, TV-commercial advertising, and logistics service).

System Engineer | Raksul Vietnam office

- Deliver and improve business-need features defined in daily sprint meetups, follow up and feedback on main OKR's deliverable features.
- Abie to estimate and propose development plan for epic feature requiring weeks to month of implementation, with in-depth understanding of business implications and system impact.
- Develop bulk import product features: process big XLSX file, validate and import into MySQL database. Ease the process of adding new product to the system, increase number of SKUs (stock keeping unit) from 1000 to 10,000.
- Implement images quality-check by serverless computing, adopt new solution to integrate with the current monolith system by AWS services (Lambda function, SNS, SQS), prevent burden on server workload.
- In charge of planning and develop image optimization features: batch convert old image format to WebP by serverless computing, build up a ruby gem for internal reuse by other projects.
- Renew TOP page of our product website: guarantee heavy request processing ability by leverage Redis cache to reduce common expensive statistic SQL queries, serve via GraphQL.
- Maintain and implement new search features with Elasticsearch, full-text search, painless script on complicated conditions and aggregations.
- Work with STFP transfer XML files and images with third-party partners.
- Monitor Sentry and Datadog reports to debug error situations and malformed performance, investigate and work with stakeholders to suggest solutions and mitigate effects.
- Implement backend services, restful APIs and write unit tests & integration tests to guarantee healthy CI/CD, fully cover development cycle.
- Help with member onboarding, introduce new member into the system codebase in term of technical requirements and business logic.
- Dockerize development environment to enhance onboarding procedure and development experience.

Others:

- After 2 months internship, I worked on online design team, one of the legacy core platforms that provides users with designing editor, stores users' designs. Experience on highly interactive UI/UX using Vue.js.
- **June 2022**, I worked as full-time employee and move to project called "Novelty" (printing inventory management service), participated in developing bulk import product features. Website: https://novelty.raksul.com/
- **Tech stack**: Ruby on Rails, Vue.js, MySQL, Elasticsearch, Redis, Docker, AWS

SELECTED PROJECTS

UTraffic - Intelligent Transportation System: An urban traffic forecasting and routing system based on data from the community (Graduation Thesis)

UTraffic is a system that has been developed for years by prior researchers and university students (HCMUT). The system applies a crowdsourcing technique that encourages online users to share their traffic data, timely report traffic status, and helps people monitor traffic conditions effortlessly. Our work is to maintain and improve the system with modern techniques in data mining and artificial intelligence.

Introduced a novel approach to collect traffic report data from users via human speech recognition. Developed routing service by modifying conventional A-star algorithm with ML-predicted result to compute travel cost, then ensure traffic congestion avoidance.

- Refine my skill of managing group works, phasing and planning thesis research targets.
- Design new approach to collect traffic report data from users by recording human speech into unstructured database and batch processing into training data for AI models.
- Modify conventional A-star algorithm with ML-predicted result to compute more accuracy and real-time heuristic travel cost. Apply Redis cache with time sensitivity to reduce the cost of requesting model processing.

Tech stack: Pytorch, Flask API, Redis, MongoDB, ReactJS, AWS.

Speech-Based Traffic Reporting: An automated data collecting approach for Intelligent Transportation Systems (Publication)
Proposed feature collects users' speech reports and uses deep learning approaches to analyze human voice, then provides traffic information to the community, which enhance increase users' awareness and better routing system.

- Implement recording feature for voluntary contributors: get a pre-defined text from database of traffic report topics which has been supervised by our system, website visitors will read and be recorded into blob stored in MongoDB.
- Operate a separate EC2 server for analyzing and training, then serve the trained model independently with REST API

TECHNICAL SUMMARY

- Technology: Ruby on Rails, Python, JavaScript, C++; MySQL, MongoDB, Vue.js, ReactJS, Redis, Elasticsearch, Docker, AWS, machine learning.
- Practical experience on problem solving and project planning.