AMAR VASHISHTH

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EDUCATION

Master of Technology | *Computer Science*   2017 – 2019
Indian Institute of Technology Madras (India's Top Engineering Institute)   Chennai, Tamil Nadu

SKILLS

Technologies:

- Python, Java, Javascript, Rust, C#, C/C++, PHP, Go, Typescript
- Actix Web, SpringBoot, FastAPI, Symphony
- ReactJS, node.js, nginx, apache-http-server
- Kafka, RabbitMQ, Redis, SockJS, Ansible
- Grafana, Prometheus, StatsD, InfluxDB
- Hurl, Behat, JUnit, Mockito
- Gatling, k6
- MySQL, MongoDB, CouchBase
- Docker, Jenkins, Kubernetes, GitHub Actions
- Microsoft Azure, Amazon Web Services, Rakuten's One Cloud
- MATLAB, TensorFlow, Mathematica

WORK EXPERIENCE

Applications Engineer   July 2023 – Present
Rakuten   Crimson House, Tokyo, Japan

- **Browsing History and Gift History Engineering**:
  * Migrated to a new system architecture and maintained high-throughput backend services handling peak traffic of 34K QPS
  * Executed zero-downtime, rollback-safe database migration from Couchbase (NoSQL) to Oracle (SQL)
  * Led end-to-end frontend and backend migration for the *ashiato.rakuten.co.jp* ecosystem, including Apache configuration improvements
  * Drove infrastructure migration from bare-metal servers to a cloud platform
  * Designed and implemented production-grade Jenkins CI/CD pipelines for Kubernetes deployments and real-time configuration updates
  * Implemented comprehensive observability, alerting and monitoring
  * Delivered critical business features, like Furusato Nozei tax policy changes
  * Built extensive automated test suites for backend services and UI to ensure reliable pre-production validation

- **Coupon Platform Engineering**:
  * Orchestrated major platform upgrade from PHP 5 to PHP 8, including Symphony framework modernization
  * Engineered performance optimizations and feature enhancements for mission-critical systems
  * Established modern CI/CD infrastructure with automated build triggers
  * Optimized scheduled batch processes and executed infrastructure migration

Senior Software Engineer   July 2019 – July 2023
Myntra (Flipkart)   Bengaluru, Karnataka, India

- **Messaging Platform Engineering**:
    * Architected and maintained enterprise-scale messaging infrastructure handling 60K TPS
    * Developed and maintained multi-language SDKs (Java, Python, JavaScript, Go)
    * Designed cross-datacenter topic replication system with self-service capabilities

- **Secured Kafka System**:
    * Designed and implemented enterprise-grade authentication and authorization framework
    * Developed granular access control system with incremental authorization capabilities
    * Integrated end-to-end encryption functionality across multiple SDK implementations

- **MFB PLM System**:
    * Led backend development of high-performance PLM system (100K RPM) using Spring Boot
    * Reduced operational costs significantly by implementing proprietary alternative to PRM360
    * Collaborated in four-person team to deliver enterprise-grade solution

- **KnowYourClient System**:
    * Architected real-time API protection and client metadata management system
    * Implemented non-intrusive access control layer processing 250K monthly requests
    * Developed dynamic API security without requiring existing service modifications

- **MFB-PLM Excel Plugin**:
    * Independently developed and deployed C# Excel plugin for streamlined PLM operations
    * Engineered automated spreadsheet validation and data upload functionality
    * Reduced manual processing time by implementing one-click operational workflows

- **Observability and Monitoring**:
    * Established comprehensive logging infrastructure utilizing ELK stack integration
    * Implemented automated alerting system leveraging Statsd, InfluxDB, Prometheus, and Grafana
    * Configured mission-critical monitoring with email and Slack notifications

- **Scheduler Lock**:
    * Designed and implemented robust database-driven scheduling synchronization system
    * Engineered solution ensuring single-instance schedule execution across distributed services
    * Enhanced system reliability through optimized concurrent process management

- **Containerisation**:
    * Worked extensively to containerize several back-end services in the team. The goto guy for team's Docker needs.

- **Load Testing**:
    * Responsible for performing rigorous load tests (stress testing) on Kafka Brokers before any critical events (such as online mega sale)

- **Database Migration**:
    * Responsible for migrating all services within the team to MySQL8, together with the DBOps Team

- **OnBoarding New Engineers**:
    * Usually I am made responsible to introduce new engineers into the team, and supporting them until necessary.

PROJECTS AND RESEARCH

Nutritional Information Analysis - Indian Cuisines:

- Developed machine learning model for automated nutritional content assessment
- Engineered comprehensive training dataset for Indian culinary analysis
- Implemented algorithmic estimation of nutritional values with high accuracy

Robotics Engineering:

- Designed and implemented autonomous navigation systems
- Constructed and programmed 4-wheeled robot utilizing Lego NXT architecture
- Developed control algorithms for precise movement and obstacle avoidance

Academic Research Projects:

- Implemented semantic web queries using SPARQL and RDF frameworks
- Developed Bayesian classification system for email filtering
- Integrated Gmail API with Java-based spam detection algorithm