



# AMAR VASHISHTH

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## EDUCATION

### Master of Technology | Computer Science

Indian Institute of Technology Madras (India's Top Engineering Institute)

2017 – 2019

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

Rakuten

July 2023 – Present

Crimson House, Tokyo, Japan

#### • Browsing History Engineering:

- \* BH's most used service receives requests at the rate of 34K rps(peak)
- \* Handling Front-end and Back-end based updates for ashiato.rakuten.co.jp and all subpages in this domain (it is 1 click accessible from Rakuten's Ichiba) in a team of 3 engineers + 5 management.
- \* Migrating Microservices from a platform of Mesos-managed containers to Rakuten's One Cloud Servers
- \* Performing Kubernetes managed containers Deployments, Setting up Jenkins pipelines
- \* Writing K8s configs with istio service mesh technology
- \* Setting up Grafana + Prometheus based Monitoring for microservices etc.
- \* Responsible for business-critical feature updates like Furusato Nozei: Home Town Tax Policy changes
- \* Wrote a collection of 500+ Unit Test cases for a single library during initial days of Joining

#### • Coupon Platform Engineering:

- \* Worked on Performance Improvements, feature Addition and Bug fixes
- \* Migrated PHP 5 to PHP 8, along with Symphony framework Upgrades
- \* Creation of New CI/CD Pipelines, Server Operations and build Triggers with Jenkins
- \* Performance improvement for Scheduled Batches and migrated them to new Infrastructure

### Senior Software Engineer

Myntre (Flipkart)

July 2019 – July 2023

Bengaluru, Karnataka, India

#### • Messaging Platform Engineering:

- \* Managed and developed the enterprise-wide messaging platform in a team of 2.

- \* The messaging system operated at a **60k tps** peak.
- **Topic Replication Self Serve:**
  - \* Designed the entire topic replication system that spans multiple data centers.
  - \* Introduced, built and deployed the production ready Backend and Frontend of this self-serve platform.
- **Secured Kafka System:**
  - \* Architected and implemented the entire secured system, along with all SDK updates, and also helped clients integrate with this new system.
  - \* The system also allowed incremental authorization on topic access to authenticated clients
  - \* Encryption and Decryption functionality was also introduced in SDKs along with this system.
- **MFB (*Mynta's fast fashion brand*) PLM System:**
  - \* Implemented about 70% of this system's backend in java, spring-boot.
  - \* This was built in a team of 4, served as an alternative to the PRM360 system, resulting in significant cost savings for the organization.
  - \* This system operated at **100K rpm**
- **KnowYourClient System:**
  - \* Architected and implemented this client metadata management + API defender system.
  - \* The system provided real time access control over existing APIs, without requiring change of existing code of already running services, by acting as a defending wall
  - \* Operated at **250K requests per month**
- **MFB-PLM Excel Plugin:**
  - \* Single handedly built this Excel plugin in C#
  - \* It prevented business people to perform an additional visit to the MFB system UI, and upload spreadsheets
  - \* Simple operations like Spreadsheet consistency check, upload etc, could be performed easily using 1click
- **Observability and Monitoring:**
  - \* Responsible for setting up log management for multiple services; Integration with ELK stack.
  - \* Integrated email and slack alerts for metric and health monitoring system; Using statsd, influxdb, prometheus, grafana
- **Scheduler Lock:**
  - \* Implemented a database-based lock to ensure that only a single schedule runs on multiple instances of the same service.
- **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

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### Retrieving Nutritional Information of Indian Cuisines:

- Training Data Generation
- Object Localization
- Nutritional value estimation

**Robotics:**

- Navigation
- Positional Awareness
- 4 Wheeled bot created using Lego NXT kits

**Academic Projects:**

- Ontology: Use of SPARQL Protocol and RDF Query Language
- Simulation 5G Protocol in C++, for Beam communication
- Fashion MNIST, CNN based image classification
- Document summarization: Use of Bidirectional LSTM with attention mechanism
- SVD and Polynomial Regression: Image reconstruction using eigen vectors and Curve Fitting
- Density estimation using Gaussian Mixture Models for real and synthetic data
- Isolated and Connected digits recognition: Hidden Markov Model
- Feature extraction for handwritten digits: Dynamic Time Warping
- Kernel Density Estimation and 1 Vs All Classification: Parzen Window, Fisher discriminant based classifier, Perceptron based classifier and SVM
- Bayes Classifier: for spam email filtering, with GMail API and java