KIRAN U KAMATH

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Experience

- **PayU** Bengaluru, IN
  Senior Software Engineer *Apr 2023 – Present*
  - **System Re-Architecture**: Spearheaded the migration of the Trident FRM system from a monolithic Java-based application to a scalable, multi-tenant microservices-based architecture leveraging Spring Boot, RabbitMQ, and Couchbase. Delivered significant cost reductions and performance improvements.
  - **Rule Engine Development**: Designed and implemented a rule engine capable of processing 5x the transaction volume of the previous version, supporting dynamic rule authoring and real-time execution without redeployment.
  - **Real-Time Statistics Update**: Developed an optimized realtime statistics computation model for rule evaluation using Couchbase as an in-memory database to ensure low-latency operations for data fetch and storage
  - **Generic Workflow Automation**: Designed and implemented workflows for diverse use cases, including fraud detection and anti-money laundering (AML), leveraging Camunda BPMN for multi-level approvals and process orchestration.
  - **Performance Optimization**: Reduced decision engine latency from 630ms to 50ms using Java Profiler, memory leak analysis, and targeted optimizations. Scaled throughput from 40 TPS to 200 TPS per node (4-core, 8GB RAM VM).
  - **Feature Development**: Implemented key features, including case management workflows, real-time currency conversion, suspicious entity detection, and entity profile enrichment.
  - **Engineering Excellence**: Focused on code reviews, enforcing code quality standards, SOLID principles, and design patterns. Advocated for an API-first approach in API design, integration, and development.
- **PayU** Bengaluru, IN
  Software Engineer *Apr 2021 – Apr 2023*
  - **Reporting Service**: Delivered a fully customized reporting service powered by Couchbase Analytics, reducing TAT from hours to minutes while offloading operational database load and supporting ad-hoc query execution
  - **Rule Engine - Case Manager**: Contributed to the development of FRM Trident 2.0, enhancing rule engine capabilities and building the case manager portal for fraud monitoring
  - **DBInsert Microservice**: Designed and implemented a robust DBInsert Microservice using RabbitMQ, Kafka, MySQL, and Couchbase to ensure seamless data transformation and integration between messaging systems and databases
  - **Data Migration Utility**: Built a migration utility to transfer data from Couchbase to MySQL using Kafka and Maxwell's Change Data Capture, improving data consistency and scalability
- **PayU** Bengaluru, IN
  Associate Software Engineer *Sep 2020 – Apr 2021*
  - Worked on ML model development for RBA Scorecard, Fraud ML models, including hypothesis testing, feature engineering, and hyperparameter tuning.
  - Integrated ML models into the FRM Rule Engine.
  - Contributed to feature development, bug fixes, and production issue resolution.

Summary

Software Engineer with over 4.7 years of experience in designing, developing, and optimizing high-performance scalable applications.

Education

- **Bachelor of Engineering – Information Science and Engineering** GPA: 8.24
  National Institute of Engineering *2016 – 2020*
- **Cloud Native Application Architecture** Certificate
  Udacity *2023*
- **Data Scientist Nanodegree** Certificate
  Udacity *2021*

Skills

- **Programming Languages**: Java , Python , Go (beginner)
- **Frameworks and Tools**: Spring Boot, Hibernate, Camunda BPMN, REST API Development, Java Profilers
- **Databases and Caching**: Couchbase (NoSQL), MySQL, Redis (Lua scripting), Elasticsearch, Ehcache
- **Messaging and Streaming**: RabbitMQ, Apache Kafka
- **DevOps and Cloud**: Docker (basic), Kubernetes (basic), AWS (EC2)
- **Software Engineering Practices**: API-first design, SOLID principles, Design patterns, Code reviews

Achievements

- Reduced real-time FRM decision p99 latency from 630ms to 50ms.
- Scaled throughput from 40 TPS to 200 TPS per node (4-core, 8GB RAM VM)

Github Projects

- **Ticket Booking Backend - Github** :
  Designed & developed a high-concurrency ticket booking system handling parallel bookings efficiently.
  Used Redis as distributed cache with Lua scripts to manage seat availability and prevent overselling.