Piyush Bag

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EDUCATION

Santa Clara University   Santa Clara, CA
Master's of Science in Computer Science, 3.85/4.00   Mar 2021 - Mar 2023
Courses: Advanced Web Programming, Web Architecture and Protocols, Distributed and Multi-tiered Systems

University of Mumbai   Mumbai, India
Bachelor of Engineering in Information Technology, 7.05/10.00   Aug 2012 - May 2016
Courses: Data Structures and Algorithms, Relational Databases, Object - Oriented Programming, Design Patterns

PROJECTS

MERN Stack E-commerce WebApp Microservices   Oct 2020
React.js, Hooks, Next.js, Node.js, Express.js, MongoDB, Docker, Kubernetes, TravisCI, Jenkins, TDD, Typescript
- Developed and scaled a large, scalable E-Commerce app leveraging a collection of Microservices
- Solved concurrency issues in a distributed system environment and handled challenges in async, event-based communication between services
- Executed a custom event bus and documented and enforce structure constraints on events shared across microservices
- Redesigned a component tree that increased code reusability by 40%

gRPC based Golang Microservices   Feb 2021
Golang, gRPC, protobuf, TravisCI, Git
- Created server and client code in Golang using protocol compiler gRPC Plugin and compared gRPC and REST API paradigm
- Constructed massively parallel systems with Go's concurrency model using Go routines and channels
- Implemented Unary, Server Streaming, Client Streaming Bi-Directional Streaming API
- Built a fast scalable HTTP/2 API for a Golang micro service with gRPC, Protocol Buffers (protobuf)

EXPERIENCE

Tata Consultancy Services   Mumbai, India
Software Engineer   Dec 2016 - Mar 2021
Retail Unit: TCS BaNCS Loan Origination System   Jul 2019 - Mar 2021
Back-end Developer   Golang, Apache Kafka, DynamoDB, AWS SES
- Built an architecture to utilize Kafka streaming process aid in providing high throughput and low latency for visualization of application data that decreased product cost by 35%
- Enhanced microservices using gRPC for Authentication to handle 5K DAU users, communication of application with AWS SES, Send Grid using service-oriented architecture
- Design and code the Golang to log different host system event and alert information to Dynamo database
- Designed and implemented lexer/parser for specification test files in Golang

Analytic and Insights Unit: TCS Next-Best-Action   Dec 2016 - Jul 2019
Full-Stack Web Developer   Python, Flask, Celery, Rabbit MQ, React.js, PostgreSQL
- Improved front-end designing functionalities led to code optimization by 20%; leveraged React.js and JavaScript
- Lead development of module to build the distributed architecture as per the client requirement and collaborated with experienced cross-disciplinary technology teams resulted in scale and speed up the Flask application by 25%
- Created Microservices and REST API utilizing Python to handle 10x inbound volume
- Developed a distributed Task Queue using Celery and Rabbit MQ to enable tasks in background while application continues to resolve other tasks

TECHNICAL SKILLS

Languages: Python(Proficient), Go(Proficient), JavaScript, C/C++, SQL (Postgres),NoSQL (MongoDB), Java
Frameworks: React, Node.js, Flask, Bootstrap, FastAPI
Developer Tools and Other Technologies: Git, Kubernetes, TravisCI, Agile, (AWS) Amazon Web Services S3, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ
Libraries: pandas, NumPy, Matplotlib