

# Ganesh Prasad Shivakumar

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Portfolio: [ganeshpras.github.io/gp/](https://ganeshpras.github.io/gp/)

## EDUCATION

### Northeastern University, Boston, MA

GPA: 4.0/4.0

- Master of Science (M.S.) - **Computer Science - Research and Teaching Assistant for Machine Learning**

Courses: *Algorithms, Programming Design Paradigms, Database Management Systems, Machine Learning, Deep Learning*

### Sri JayaChamarajendra College of Engineering, Mysore, India

GPA: 9.2/10.0

- Bachelor of Technology (B.Tech.,) - Electronics and Communication

## SKILLS SUMMARY

Languages	Java, Python, GoLang, Bash, C++, Javascript, NodeJS, ReactJS, Redux, NextJS, R Lang
Frameworks	Tensorflow, Keras, Torch, Django, Unicorn, Flask, Numpy, Pandas, Jupyter
Tools	Kafka, Kinesis, Zookeeper, Spark, Grafana, Kubernetes, Docker, ELK, Prometheus, Flink
DBs & CI/CD tools	DynamoDB, MongoDB, SQL, dGraph, AeroSpike, Redis, Travis, Github Actions, Jenkins
Certifications	Coursera Neural Networks and DeepLearning, Udemy Certified Kubernetes Administrator

## PROFESSIONAL EXPERIENCE

### Google Developer Student Club (GDSC) - Student Superintendent

Boston, US | 2022 - 2023

- Organized impactful sessions to problem solving, mentor peers, and propagate the cutting-edge technology behind Google products.

### Amazon.com, Inc - Software Developer

Seattle, US | May, 2023 - Sept, 2023

- Achieved **30% reduction in response time** by changing paginationKey serialization from orthodox string concatenation to **Kryo**.
- Optimized retrieval of Quadrillion bytes of data from Data Planes (Cairns, Andes) by redesigning paginationKey whilst orchestrating data storage. Deployed this crucial API change with **zero percent downtime** on the existing traffic leveraging **Amazon Weblab**.
- Evolutionized paginationKey which helped in modifying in-memory processing of inPredicate queries to logically evaluated queries, reducing memory usage by 50% that helped handle system overhead.(Stack: **AWS Glue, AWS Lambda, DynamoDB, Kryo**)

### Amazon Robotics - Software Developer

Boston, US | Jan, 2023 - May, 2023

- Pioneered a new pipeline using **Kinesis Data Firehose and Lambda** and built a pub-sub architecture to share data snapshots among downstream services in near realtime.(Stack: **Kinesis Data Firehose, AWS SNS, AWS Lambda, AWS Fargate**)
- Surpassed expectations by implementing in-memory snapshot solutions to reduce storage overhead, whilst achieving updated **info-delivery in milliseconds through SNS topics**.
- Developed a **CDK package** for downstream services, enabling in-memory snapshots in a central storage system for package info updates, achieved **99% synchronization** between the system and real-world package movement.

### Unbxid Inc., A Netcore Company

Bengaluru, India | 2015 - 2021

- Lead Software Developer in Search**  
Nov, 2017 - Dec, 2021
  - Developed an application that validates e-commerce catalog's product schema using **schema.org** standards. This helped in **auto-generating schema and detecting any datatype anomalies** in the catalog. (Stack: **Java, Mongo, GoogleGuice**)
  - Initiated and architected a **Kubeflow-based ML pipeline** for entity extraction (NER), personalized scoring, recommender model training/testing, and Topic Modeling, yielding a 25% increase in customer conversion.(Stack: **Glue, Python, Kubeflow**)
  - Created an auto scalable platform to fetch and index catalog from one e-commerce platform to other. App built on **Argo workflow where the Kube pods** will be rolled up as per the load. (Stack: **Python, Django, Celery, PostgreSQL**)
  - Built a scalable cloud computing platform for **hosting SOLR cloud clusters and auto recovery from various outage scenarios**. This took care of **JAVA GC outages and reduced overhead for SOLR maintenance**.(Helm, Kubernetes)
  - Refactored fail safe **Query Processing Layer** to incorporate all the query rewrites and reformulations. This refactorization helped in terminating 5 services and respective resources. (Stack: **Golang, Envoy Proxy, Protobuf, GoFlow**)
- Software Engineer**  
Jan, 2015 - Nov, 2017
  - Built a service that acts as a source of truth for e-commerce catalogs of indexed sites, used for **Differential Indexing**. This application removed the overhead of internal search calls. (Stack: **Java 11, dGraph, AeroSpike, Pippo, Kubernetes**)
  - Designed and built Javascript SDKs in Builder design pattern for integration of Search, TypeAhead, Analytics and Recommendations. This helped in reducing platform onboarding time by nearly 60%. (Stack: **React JS, webpack, HTML**)
  - Built vertical specific statistical & **LSTM/CNN/CRF neural network models for Entity recognition** from search query. This can even identify factors that had a significant impact on the relevance of almost **90% of e-commerce queries**.
  - Designed and implemented hybrid **Recommendation System** using user analytics data to provide personalized recommendation widgets for e-commerce websites. Resulted in enhancing revenue by 30%. (Stack: **Spark, MongoDB, Java**)

## LEADERSHIP AND RECOGNITION

- Led an engineering team of 10 people, which was in charge of creating the tools for catalog extraction and indexing. We conceptualized, designed and maintained the whole pre-processing catalog pipeline.
- Awarded **Most Valuable Player - 2019** for my consistent efforts and performance.
- Received **GoGetter & Challenger - 2017,18** recognitions consistently for my persistence and problem solving ability at work.