Ganesh Prasad Shivakumar

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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, PHP, R Lang
Frameworks	Tensorflow, Keras, Torch, Django, Gunicorn, Flask, Numpy, Pandas, Jupyter
Tools	Kafka, Kinesis, Zookeeper, Spark, Grafana, Kubernetes, Docker, ELK, Prometheus, Flink
DBs & CI/CD tools	SQL, NoSQL (DynamoDB, MongoDB, Redis, AeroSpike), dGraph, Travis, Github Actions, Jenkins
Certifications	Coursera Neural Networks and DeepLearning, Udemy Certified Kubernetes Administrator

PROFESSIONAL EXPERIENCE

Google Developers - Machine Learning Research Assist   Boston, US | *2022 - Present*
- Led the development of LLMs (BERT, GPT2), multi-modal variational autoencoders (VAE) with convnets, and transformers, effectively calculating visual semantic embedding in political social media (Instagram) data with 400,000 records.

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.

Unbxd Inc., A Netcore Company   Bengaluru, India | *2015 - 2021*

- **Software Developer 2 / MLOps in Search**   *Nov, 2017 - Dec, 2021*
  - Coded **RESTful Application in GoLang** for refactoring **Query Processing Layer** to centralize all the e-commerce search query rewrites and reformulations. Reduced network hops & API latency by 20%. (Stack: **Enovy Proxy, Protobuf, GoFlow**)
  - Mitigated data quality risks by **35%** by developing advanced **SQL queries, Stored Procedures and Functions**. Performed **ETL/ELT** for direct data ingestion from diverse unit sources, large-scale data processing using **Spark and MapReduce**.
  - 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**)
  - Coded autoscalable Shell application 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.**(**Linux, Kubernetes**)

- **Software Engineer**   *Jan, 2015 - Nov, 2017*
  - Authored **RESTful Spring boot** application in JAVA11 that acts as a source of truth for e-commerce catalogs of indexed sites, used for **Differential Indexing using Knowledge Graph**. Lead to reducing internal overload on search by 20%.
  - Coded **JS SDKs in Builder design pattern** for Search, TypeAhead, Analytics and Recommendations integration on e-commerce sites. This helped in reducing platform onboarding time by nearly 60%. (Stack: **React JS, WebPack, HTML**)
  - Developed generic **Shopify e-commerce app** with **GraphQL queries, JS WebHooks** for fetching catalog from the platform. Also, app inject **CDN JS scripts** for enabling custom search, this reduced customer onboarding time by 50%.
  - Leveraged **Elasticsearch, Logstash, Kibana** for implementing Analytical based Recomendation Systems for powering personalized recommendations for e-commerce sites. Created **Kibana APM dashboards** for monitoring and log analysis.

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.
  - Received **GoGetter & Challenger - 2017,18** recognitions conistenlty for my persistence and problem solving ability at work.