TUSHAR

Software Engineer

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SUMMARY

A **Software Engineer driven by logic**, with around **3 years of industry experience in developing** high performance, scalable, and secure software stack, **enabling organisation in driving better product roadmap**. Having in-depth knowledge of Data Structures, Distributed Processing, Algorithms & Machine/Deep Learning.

EXPERIENCE | 2 YEARS & 10 MONTHS

Senior Associate Technology

Morgan Stanley   *[Jul, 2022 – Present]*

- Currenlty Working as a **Backend Engineer** on Low Latency and High Frequency Front Office Electronic Trading Systems.
- Designed, Implemented and Migrated the next generation **Order Manager** Application.
- Implemented and Deployed the **Automation Perl Scripts** which handles the enormous data on Production Servers, generates the E-mail reports, perform auto cleanup of the Servers.
- Improvised the **Log Replay Process** that helps in finding the bugs, optimised with parallelisation.
- Using **FIX Protocol** for handling day-to-day trading orders.
- Proactively **Shipping Features and Fixes to Production** and Served as an on-call engineer.
- Performing **Code Reviews, SDLC tasks** and Providing L3 Prodution Support.

Software Development Engineer

Intel Corporation   *[Aug, 2020 – Jun, 2022]*

- Worked on Server Graphics Products - GPUs, to develope the complete pipelines for different components of the H/W which includes analysing there overall performance and debug. Main focus is on compute intensive **AI/ML models and their optimisation**.
- Developed End-to-End Framework for running the Deep Learning Application Solutions which provide features for performance profiling, scaled/automated execution.
- Received **Spontaneous Recognition Award** from Higher Management for bringing out the on-time execution and report attribution.
- As a Software Development Engineer Intern for **1 year**, Explored the deep learning state of the art models in different frameworks like Tensorflow, Caffe and Onnx. I mainly focus on developing the framework to validate these models using automation with scripting languages like bash, python.
- Received **Department Level Recogniton** for Software Validation and execution excellence on Intel Neural Network Inference Accelerator. Specially recognised for **On-Time Delivery and Customer Obsession**.

KEY PROJECTS

Publication/Research Project -> Link

- *Skills: R, Rattle, Supervised Learning Classification, Random Forest, Decision Tree, Linear Regression Models*
- Presented and Published research paper titled 'Prediction Analysis of risky credit using data mining classification models' (IEEE Catalog Number: CFP1752J-ART/ISBN: 978-1-5090-3038-5) released in the 8th International Conference on Computing, Communications and Networking Technologies at IIT-Delhi, India.

Major Thesis - Research Project

- *Skills : Python, Pytorch, GPU Programming, Pytorch, Generative Adversarial Network, Deep Learning*
- Performance Analysis and Device Agnostic Optimisation of Image Synthesis Generative Adversarial Network (GAN) Workload on Intel NNPI vs Nvidia GPU

Implementation of KMP Algorithm using MPI+OpenMP (Distributed Systems - HPC)

- *Skills: MPI, OpenMP, C++, Scaling, Linux*
- Pattern matching using clusters of 5 systems(Linux Ubuntu OS) for large input in millions to divide the task between each and achieve parallelisation while computing.

TECHNICAL SKILLS

- **Programming Languages**
  - C/C++
  - Python
  - Bash/Perl Scripting

- **Frameworks**
  - Grafana
  - Flask
  - Django Pytest

- **AI/ML**
  - Pytorch
  - Tensorflow
  - FFmpeg, DLstreamer

- **Database**
  - SQL
  - POSTgreSQL
  - NoSQL

- **Tools & CI/CD**
  - Docker
  - Kubernetes
  - Splunk
  - Jenkins
  - BitBucket, Git
  - Gitlab, Github, Gerrit

STRENGHTS

- Requirement Elicitation
- Business Communication
- Project Management
- Design Thinking
- Problem Solving
- Deadline Oriented
- Troubleshooting

EDUCATION

M.Tech Information Technology
NIT Surathkal, Mangalore
📅 2018 – 2020   📍 8.44 CGPA

B.Tech Computer Science
Univeristy of Delhi
📅 2013 – 2017   📍 8.40 CGPA

Higher Secondary (CBSE)
📅 March, 2013   📍 8.00 CGPA

Senior Secondary (CBSE)
📅 March, 2011   📍 8.80 CGPA