Pratik Bhagwat

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WORK EXPERIENCE

- **Software Engineer (Analytics and Machine Learning Platform) - *Coupang. Jan 2022 - Present***
  - Designed and managed organization-wide data science and analytics notebook platform utilizing Apache Zeppelin as an open-source solution and Kubernetes and ingress as infrastructure.
  - Enhanced the Apache Zeppelin open source to have heavy query handling capacity for Presto and Livy Spark workloads, aligned with company's privacy and security protocols and developed additional features for version control. This led to building a community of over 4500 monthly active users and facilitate more than 50,000 daily active jobs.
  - Improved the Customer Experience Analytics platform by introducing functionalities to the Funnel, Journey, and Trend analysis sections, catering to over 100 monthly active users.
  - Designed a top line metrics report by building data pipelines to collect usage and system metrics for all BI tools. (Superset, Redash, Zeppelin, Tableau)
- **Software Engineering Intern – *Coupang. May 2021 - Aug 2021***
  - Designed, developed and delivered a UI application using Vue Js, Vuex and Apache Superset for the Funnel and Journey analysis in Customer Experience Analytics Platform.
  - Added additional APIs required by the frontend in an existing spring boot application.
- **Software Engineer at LTI - *Larsen and Toubro Infotech. Feb 2018 - Jun 2019***
  - Lowered the resource efforts and accelerated the employee allocation process 10x faster by designing and implementing an automation pipeline using SAP HANA, SuccessFactors and HANA Cloud Integration.
  - Developed the invoice generation application for the contracts in the organization using SAP ABAP, Adobe Lifecycle. This reduced the manual efforts in the invoice generation at the end of every billing cycle.
  - Enhanced the contract management system with features like contract amendments, and milestone monitoring.

TECHNICAL SKILLS

- **Programming Languages** - Java, Scala, Python, JavaScript, C, C++, SAP ABAP, SQL
- **Cloud Stack-** AWS (EKS, EC2, S3, EFS, IAM)
- **Infra Stack-** Kubernetes, Docker, Terraform, Cloudformation.
- **Tools and Web Stack** - Vue Js, Vuex, Node Js, Express Js, Spring Boot, Form Calc, HTML, CSS, Git.
- **Data Engineering Technologies** - Hive, Presto, Clickhouse, Spark Sql, MongoDB, MySQL, PostgreSQL, SAP HANA, Apache Airflow, Apache Zeppelin.
- **Core Computer Science** - Algorithms, Data Structures, Computer Networking, Distributed Computing, Machine Learning.

PROJECTS

Database and Distributed Computing

- **Routing and Reliable Data Transfer over UDP - *Java, Docker***
  Implemented RIPv2 routing protocol and designed Reliable Data transfer protocol by deploying a VM network of 10 nodes on docker.
- **Relational and NoSQL Database Application Comparison - *Java, JDBC, MySQL, MongoDB***
  Developed thread safe applications for a local store using MySQL and MongoDB. The application generated a TPC-C like workload and more than 1000 orders with up to 10 concurrent threads. Compared the performance of both databases with respect to throughput, latency and ACID properties.
- **Parallel Optimal Binary Search Tree - *Java***
  Implemented a parallel algorithm to generate Optimal Binary Search Tree and tested the program for input sizes up to 5000 key-frequency pairs.
- **Network Packet Analyzer - *Java***
  Developed a java application to structure a network packet into a JSON format.
- **Parallel Matrix Multiplication - *Java***
  Implemented a Cannon's algorithm for metric multiplication using JAVA MPI. Tested the algorithm on a multicore cluster with 65536*65536 matrices.

Intelligent Systems

- **Intelligent Product recommendation system - *Python, Keras, Pandas, NumPy, NLTK***
  Designed a product recommendation system using text and image features of the queried product by the user using NLP and Deep Learning on a dataset of 25000+ apparels taken from Amazon.com.
- **Intelligent path finder with visualization - *Python, PIL, CV2***
  Implemented an A* algorithm on a topological map consisting of elevations and terrains like water, road, forest, mountains, also accounting for different seasons of the year in the algorithm. Visualized the algorithm in action.
- **Musical instrument classification on NSynth Data - *Python, Tensorflow***
  Extracted audio features using MFCC and Developed CNN and LSTM based neural networks using tensorflow to classify the musical instruments on NSynth data.

Internet of Things

- **Web UI based Automator for Grocery Shopping - *JAVA, C++, Selenium IDE, ARM-Mbed, Load cells***
  Designed a system to buy the groceries from pre-defined URL by sensing the weights of the same. Used the selenium ide to emulate the human actions required to buy the grocery product. Developed a JAVA application to get the load cell data from the ARM-Mbed development board.

EDUCATION

- **Master of Science, Computer Science**
  Rochester Institute of Technology, GPA: 3.79/4.00
- **Bachelor of Engineering, Electronics and Telecommunications**
  University of Mumbai