678-965-9478

WORK EXPERIENCE

**Lead Machine Learning Engineer – Expedia Group Apr 2022 – Oct 2023**

***Technical Responsibilities*** *(50-60%)*

* Designed high-level architecture for Machine Learning (ML) Automation Platform (collaborated with Architects, Engineers, and other managers across the platform).
* Architected and built several MLOps pipelines for Model Training, Evaluation, Deployment and Monitoring.
* Proposed and implemented a solid scalable and extensible tech strategy for the ML Automation platform.
* Lead the Migration efforts for Automation platform from legacy Cloud Services to Amazon EKS. (Involves several microservices, 6 pipelines and 35 ML models.). Forced simplicity throughout the migration so we could deliver swiftly.
* Enforced 10-20% engineering bandwidth across team for resolving tech-debt and to maintain engineering excellence.
* Contributed code for several initiatives:
  + Technologies include (not exhaustive) Java, Sprint Boot, JPA, Python, Airflow, Kubeflow, TensorFlow, Spark, AWS, EKS, ECS, S3, SNS, SQS, Datadog, Jenkins, GitHub Actions, Spinnaker, Splunk, Maven, Gradle, ML Flow.

***Tactical Responsibilities*** *(40-50%)*

* Lead a team of 6 engineers and oversaw 5 multi-quarter engineering projects on Machine Learning (ML) Platform.
  + Split multi-quarter projects into achievable milestones with a clear definition of done for each.
  + Defined the scope and framework for each project to ensure:
    - delivery within set time and budget.
    - quality by enforcing standards with checks and balances.
  + Collaborated with:
    - Product Manager to define the product vision for my team.
    - Program Manager to help drive the day-to-day execution for my team.
    - Cross-functional teams to ensure my team aligns with the Organization and Business OKR’s and deliverables.
    - Senior Engineering to define the low-level details for execution on the project.
    - Leadership to make sure sufficient visibility is provided into the efforts, risks and blockers on the team.
* Managed/improved stake-holder relationships, by ensuring clear communication and project alignment.
* Mentored direct reports to help them succeed in their roles through constant constructive feedback.
  + Conducted quarterly reviews and helped individual define and progress towards their goals.
* Hired and coached engineers to help with their transition onto our team.

**Machine Learning Engineer III – Expedia Group Jul 2019 – Apr 2022**

* Lead several (3+) multi-quarter projects and several (2-6) engineers contributing to the AutoML platform.
* Maintaining and improving several Java and Python based microservices related to the AutoML system.
* Designed and implemented several complex systems using Microservices architecture on the cloud (using AWS and Kubernetes)
* Planned and helped execute the migration from legacy system onto AutoML. Involves 7 Teams, 45 ML Models and 3 services.
* Engaged with peers across organization to build understanding of cross dependencies, priorities, and opportunities to simplify.
* Identified, investigated, reported, and mitigated several risks that could have affected our team’s/other team’s services.
* Built ML Operations(MLOps) platform for model training, evaluation and deployment for NLP use cases.
* Worked with various CI/CD tools like Spinnaker and Jenkins to create and optimize software release process for the team.
* Participated in pair programming to help junior engineers/new recruits onboard effectively.
* Estimated cloud cost for upcoming months based on past cloud spending.
* Re-wrote part of a Java based web service in Kotlin using Coroutines to improve the codebase.
* Troubleshooted, built and deployed docker images to Artifactory.
* Designed and implemented API’s in Kotlin and Java using Spring Boot.
* Leveraged Kubernetes API to programmatically invoke Argo Workflow and get the workflow status.
* Created infrastructure as code in AWS using Terraform.
* Documented important project related information on team wiki and maintained it.
* Assisted new hires on the team with project setup, got him up to speed and mentored him with his tasks.

**Software Engineer – Cerner Corporation Apr 2016 – Jul 2019**

* + Worked on developing an application that manages identity and access for Cerner associates:
    - Implemented a workflow which cache’s encryption keys to reduce database calls and improve performance.
    - Enhanced system accounts to support a new privilege for managing application secrets. (Full stack enhancement)
    - Technologies and tools used on the team include REST, Spring, FTL, JSP, Postman and AWS Secret Manager.
  + Developed a full stack web application/service that can help improve clinical documentation. Responsibilities include:
    - Designed/implemented Java REST services and a front-end app using FTL, JQuery and Ajax to test our services.
    - Worked with Oracle databases writing SQL queries, integrated Flyway (from scratch) for database migration.
    - Followed test driven development techniques through JUnit testing. Followed Agile Scrum.
    - Re-implemented an existing data serialization framework (AVRO) to leverage our project to use KRYO.
    - Created Jenkins jobs to automate flyway and to implement health checks for our services.
    - Performed code releases/deployments to Dev, Cert and Prod environments using Electric Commander and Chef.
  + Mentored team intern. Helped him understand our project architecture and clarified technical doubts.

EDUCATION

**Master of Science in Applied Computer Science Apr 2016**

*Northwest Missouri State University (Northwest), Maryville, MO GPA:3.82/4.00*

**Bachelor of Technology (B. Tech.), Computer Science and Engineering May 2014**

*Sreenidhi Institute of Science and Technology (SNIST), Telangana, India GPA:3.50/4.00*

TECHNICAL SKILLS

**Programming Languages:** Java, Python, Kotlin, TensorFlow, Spring Boot, Kubernetes, Minikube, R, JUnit Testing, Pandas

**Frameworks:** Spring Boot, REST API, FastAPI, Retrieval Augmented Generation (RAG), Langchain

**Databases:** MySQL, Oracle DB, MongoDB (NoSQL, VectorDB), Pinecone (VectorDB), Flyway (DB Migration)

**Software Tools:** Jenkins, Airflow, Git, RStudio, Splunk, AVRO, KRYO, ARGO, Docker, Kubeflow, ML Flow, Spinnaker

CERTIFICATION AND TRAINING

* ChatGPT Prompt Engineering for Developers - DeepLearning.AI **Oct 2023**
* LangChain: Chat with Your Data - DeepLearning.AI **Oct 2023**
* How Diffusion Models Work - DeepLearning AI **Sept 2023**
* Agile Bootcamp - Cerner **Aug 2018**
* Oracle Certified Associate, Java SE 7 Programmer (**Certification**) **Jul 2015**
* Industry level Java (J2SE and J2EE) Boot Camp. **Apr 2014**

SELECT ACADEMIC/PERSONAL PROJECTS

* + **Document Retrieval - RAG Chatbot with LLM’s – Experiment to reduce hallucinations (Self) Nov 2023**
    - Deployed models “*google/flan-t5-xl”* and *“sentence-transformers/all-MiniLM-L6-v2”* from Hugging Face on AWS.
    - Split documents into meaningful chunks using LangChain, transformed chunks into vectors using *“all-MiniLM-L6-v2”* model.
    - Uploaded the document chunks to a vector database (Pinecone). Grounded the LLM using clear prompting.
    - Retrieved data from the Pinecone and used the flan-t5-xl model to construct a proper response which is returned to the users without hallucinations.
  + **Case Folding and Porter Stemmer (Self) Apr 2016 – May 2016**
    - Developed a program to calculate frequency of words in a document by eliminating stop words.
    - Used Porter Stemmer algorithm on a Hadoop cluster.
  + **Hadoop Installation and Efficiency Comparison on Single Node AWS vs Multi Node Cluster (Self)         Feb 2016**
  + Installed Hadoop and Mahout on a single node Hadoop Cluster on AWS and multi-node cluster on local machines.
  + Investigated the efficiency of various algorithms in both environments.
* **Feedback System – Graduate Directed Project (Northwest) Sep 2015 – Apr 2016**
  + Developed a system that collects feedback from students, analyzes it and generates interactive charts in real-time.
  + Worked with PHP, MySQL database, Google Analytics Platform, Jenkins Client and Git for version control.
* **US Visa Issuance Analysis through Visualization using Tableau – IT Management (Northwest) Mar 2016** 
  + Visualized US visa issuance data by various visa classes on Tableau.
  + Performed operations like data preprocessing, loading and visualization. Derived useful insights based on visualizations.