Jaldhir Trivedi

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Education

Carnegie Mellon University, *MS in Engineering (Conc. Machine Learning)* **GPA 4.0/4.0** *Aug'20-May'22*
Indian Institute of Technology Gandhinagar, *BS in Mechanical Engineering* **GPA 8.1/10.0** *July'14-Aug'18*

Experience

Amazon Inc. Seattle, WA
Software Development Engineer II, AWS Supply Chain Management *Sept'25 – Present*

- Implemented **WebSocket**-based chat interface enabling procurement teams to interact with AI agents that leverage **MCP** tools to streamline RFX workflows, automate data extraction, and reduce manual effort in sourcing operations
- Built RFX Analytics using **Cloudscape** UI to automate quote comparison and bid award scenario generation, eliminating 5,000 hours of manual procurement workflows annually
- Implemented bid comparison **Java** API with 90% payload compression via **GraphQL** middleware, increasing max serviceable RFX capacity from 9,000 to 90,000 line items and enabling large-scale procurement events across AWS

Valted Seq Gaithersburg, MD
Data Scientist, Bioinformatics and Machine Learning *Jan'23 – May'25*

- Wrote a version-controlled (**Git**) single-cell RNA-seq pipeline (**Shell** + **Python** + **R**) to generate gene expressions
- Processed billions of reads by deploying pipeline **docker** container on in-house servers and on **GCP Compute Engine**
- Developed a novel **GPU**-accelerated adapter alignment and barcode tagging pipeline for massive FASTQ files, leveraging **Cuda** via Numba to achieve 23x speedup over existing solutions
- Led development of dataportal powerful enough to visualizes **terabyte-scale** data using **Plotly Dash** framework
- Collaborated with NVIDIA Clara team for integration and testing **Parabricks** suite, augmenting read analysis pipeline
- Applied **Transfer learning** through finetuning a **Transformer** model for cell typing in single cell RNA seq dataset
- Conceptualized and prototyped a **LangChain** powered **LLM** based single cell analysis platform using **gpt-4o-mini** & **claude-3-7-sonnet** to generate and execute code from user queries, delivering insights to a **Streamlit** UI

Amazon Inc. Bellevue,WA
Software Development Engineer *June'22 – Jan'23*

- Built RNN GRU **quantile regressors** for predicting game session demand, this forecast-informed pre-provisioning system saves ∼4800 hours of **AWS EC2** instance resource costs every day
- Improved system reliability by enacting concurrency controls of **AWS Sagemaker** jobs using **AWS Step Functions**
- Wrote **SQL** queries to monitor forecasting benchmarks and ensure prediction peroformance across model fleets
- Wrote **AWS Lambda** functions establishing various **microservice** business logic, improving modularity
- Used **AWS CloudFormation** (configured with **Typescript**) to set up infrastructure cost monitoring dashboards

LeanFM Technologies Pittsburgh,PA
Data Science Intern *May'21 – Aug'21*

- Developed LSTM model using **Tensorflow** for **predictive modeling** of temperatures in HVAC systems that performs within 2°F margin of error

Carnegie Mellon University Pittsburgh,PA
Graduate Teaching Assistant: 24789- Deep Learning & 24787- Machine Learning *Jan'21 - May'22*

- Undertook recitations for students' supplemental learning, organized office hours, designed and graded assignments

Hindustan Petroleum Corporation Limited Bhopal & Ahmedabad, India
Officer- Sales & Technical Services, Lubricant Oils *July'18 – Aug'20*

- Oversaw Lubricant Oils portfolio in Gujarat area that brought ∼$3M/year in revenue and ∼$500K/year in profit

Technical Skills

Programming: Python, Bash, C++, JavaScript, TypeScript, MATLAB, SQL, CSS, HTML, Java, R
AWS: DynamoDB, S3, Sagemaker, Athena, Cloudformation, EC2, EBS, Lambda, Eventbridge, SNS, Glue
Tools: Docker, SaS Enterprise Miner, Tableau, Figma, Databricks, NLTK, spaCy, Git, dash, cytoscape
Libraries: Pytorch, TensorFlow, Spark, Numba, Keras, OpenCV, OpenAI Gym, Ray tune, Matplotlib, anndata

Publication

Kang, S. U., ... Trivedi, J. (2025). **Dissecting the molecular landscape of Parkinson's disease and Parkinson's disease dementia using highly efficient snRNA-seq (HIF-snRNA-seq)** *bioRxiv*. DOI