

NIPUN BHALLA

IBM CERTIFIED DATA SCIENCE PROFESSIONAL, AZURE CERTIFIED ARCHITECT(AZ-305)

& ex-AWS MACHINE LEARNING SPECIALIST



Phone:
+91 9999 459 184

Email:
nipun.bhalla.811@gmail.com

Website:
tech.nipunbhalla.com

Location:
Bengaluru, Karnataka, India

- Senior Data scientist with 7+ years of relevant, and 9 years of overall industry experience in IT and programming
- Currently translating business and technical requirements from data science and machine learning problems to Generative AI applications.
- Experienced in leading Data Science and Machine Learning divisions, involving research, model development, building ML solutions, and managing and deploying ML Models in both Natural Language Processing and Computer Vision Domains.

TECHNICAL LANDSCAPE

Proficient	▪ Python 3	▪ Pandas	▪ Tensor Flow 2	▪ PyTorch
	▪ SciKit Learn & SciPy	▪ Deep Learning	▪ PySpark	▪ DataBricks
	▪ PySpark	▪ Matplotlib/Seaborn	▪ Docker	▪ CUDA
	▪ Django	▪ Flask/FastAPI	▪ REST Web Services	▪ SQL – Postgres

Gen AI: NLP – Transformers, GPT, LSTM, BERT, Tokenization, NER, Prompt Engineering, LangChain, LangGraph, ChatGPT, Embeddings, AI Agents

Computer Vision – OpenCV, Stable Diffusion(SD 1.5 and SDXL), CNNs, YOLO

Exposure with: ASR Models, RNNs, C++, Numba, Hugging Face, Apache Airflow, Git, Jira, Confluence, Agile Methodology, Statistical analysis, Cassandra, MySQL, MS SQL Server, AWS(Sagemaker, EC2, Lambda, Glue & RDS)

WORK EXPERIENCE

Senior Staff Engineer - Data Science and Machine Learning

August 2023 – Present

Nagarro Software Pvt. Ltd. | Bangalore

- **E-Commerce Platform Content Enhancement using GPT and RAG (Dec 2024 – Present)**
 - Architected enterprise-scale retrieval-augmented generation (RAG) system world's largest health and beauty retailer, driving customer engagement through AI-powered content optimization
 - Deployed autonomous AI agents and agentic workflows for real-time product comparisons, content enrichment, and sentiment-driven review summarization, improving conversion rates
- **Skill Inference Using Knowledge Graph and Link Prediction (July 2024 – Oct 2024)**
 - Engineered advanced knowledge graph infrastructure for Fortune 500 consulting firm, leveraging graph neural networks and link prediction algorithms to infer hidden skills for talent analytics
 - Delivered scalable ML pipeline for automated skill gap analysis and workforce intelligence, enabling data-driven talent management decisions
- **GPT Based Chat Agent (Feb 2024 – June 2024)**
 - Delivered enterprise conversational AI solution using LangChain framework, empowering consultants to access firms knowledge through natural language queries across multiple data sources
 - Optimized LLM performance across GPT variants, implementing cost-effective prompt engineering and robust API architecture with comprehensive test automation
- **Garage Door Detection (Sept 2023 – Jan 2024)**
 - Client: Swedish conglomerate specializing in locks, doors, gates, and entrance automation
 - Led cross-functional team delivering production-grade computer vision solution for flagship US market product, implementing ML models for garage door detection and segmentation with 94% accuracy
 - Architected end-to-end MLOps pipeline leveraging YOLOv8 object detection and advanced segmentation algorithms (RetinaNet, Fast R-CNN, Detectron2) for real-time inference, enabling automated design visualization and enhanced customer experience

Beyond the role: Spearheaded internal R&D initiatives developing GenAI-powered Document Recognition and Parsing solutions, positioning them as next-generation offerings for enterprise clients. Conduct regular technical interviews and participate in hiring drives for assessments for junior to mid-level engineers, data scientists, MLEs, and GenAI engineers, contributing to talent acquisition and team scaling efforts.

Solution Architect - Data Science and Machine Learning

SEPT 2022 – August 2023

Pharmallama (Meradawai Pvt. Ltd.) | Bangalore

- Engineered end-to-end handwriting recognition system for doctor's prescriptions using convolutional neural networks (CNNs), attention mechanisms, and LSTMs, combining computer vision and sequence modeling techniques
- Architected printed bill/prescription reading backend using Django, OpenCV and PyTesseract, implementing image preprocessing pipelines (binarization, deskewing, noise reduction) for automatic detection, validation and extraction of structured data
- Applied classical and deep computer vision techniques including contour detection, morphological operations, and template matching for robust document layout analysis
- Developed internal advanced analytics dashboards for Operations and Sales with forecasting models on AWS QuickSightManaged cloud (AWS) infrastructure for all internal and consumer facing products

Beyond the role: Managed Django-based internal order capturing platform (OCP), optimizing Python code for increase operations team output by 2x. Oversaw development and release of Android and iOS apps linked to OCP and integrated third-party payment processors.

Data Scientist

OCT 2021 – AUG 2022

Ericsson Inc. | Noida

- Handling development of model to predict NPS (Net Promoters Score) for upcoming week/month recommended proactive steps to improve KPI's
- Developed foreign language (Dutch and Thai) analytics and sentiment analysis model to process customer feedback for telecom operators
- Implemented ArgoFlow and Spark MLlib for automation and lifecycle management of Machine Learning Models
- Authored PySpark data normalization scripts to process Terabytes of Telecom KPI data
- Lead the development of Tableau dashboards for displaying prediction results, recommendations and trends

Data Scientist (Software Engineer)

JAN 2021 – SEP 2021

Eye Care Leaders (Part of Global Growth) | Noida

- Lead the development of myCare Analytics Cloud, also formulated and integrated Forecasting, and Anomaly Detection models along with designing creative visualizations for the same
- Leading the dev of a model for *predicting clinical events* using **LSTM**, the accuracy of the current model is 71%
- Directing the development of feedback collection and **sentiment analysis** server-less web service

Associate Software Engineer - Data Scientist

SEPT 2018 – DEC 2020

Eye Care Leaders (Part of ELI Research India Pvt. Ltd) | Noida

Project: MyCare Analytics

- Collaborated with SMEs in the field of ophthalmology for feature selection in ML models; also presented models to managers and non-technical stakeholders
- Formulated Patient Growth Forecasting model which correctly forecasted patient growth

Project: Data Migration

- Engineered ETL pipelines using SQL and Python for moving data between different EMR/EHR systems with data sanitization and validation checkpoints resulting in > 1% of total record migration failure
- Developed data validation framework in using pandas for automatic validation which included critical field error detection and could validate records at a speed in the range of 3,000 to 10,000 records/second

Beyond the role: Devised web-based CICD and automation suite using Django for Analytics' client onboarding workflow while accounting for customizations; suite reduced time for client onboarding process from 8-12 hours of manual work down to 5 minutes

ADDITIONAL EXPERIENCE

Summer Trainee

JUN 2017 – JUL 2017

Weapons and Electronics Systems Engineering Establishment (WESEE)

Indian Navy, Ministry of Defence, Govt. of India | New Delhi

Co-Founder and CTO

Giftomise.com // E-Commerce Start-up | New Delhi

FEB 2016 – MAY 2017

Head – Technical

YaarBazaar.com (YaarBazaar Pvt. Ltd.) // E-Commerce Start-up | New Delhi

SEP 2015 – JUL 2016

SCIENTIFIC PUBLICATIONS

Smart Reflect: An Application Nonspecific Passive Information Display Device for Public and Private Spaces

International Journal for Research in Applied Science & Engineering Technology

CERTIFICATIONS

Python Data Science Professional Certificate
AWS Certified Machine Learning - Specialty (MLS)
Essential Math for Machine Learning

IBM
Amazon
Microsoft

EDUCATION

Bachelors in Technology (Electronics and Communication)

Guru Gobind Singh Indraprastha University, Delhi

Batch: 2014 – 2018

PROJECTS

REVERSE SNAKE - Classic snake but the snake is A.I. and the human places the food. Currently the A.I. runs on a X64 machine but end goal is to make it run on embedded hardware. Built using Deep Q-network(DQN) with TensorFlow 2

IMAGE SIMILARITY WEB API- Dockerized web api when given 2 images, computes the image similarity between them. Uses VGG-19 model for generating the feature vector.

SMART MIRROR - Biometrically authenticated display device with availability and attendance system for departments and organizations; engineered using Raspberry Pi 3 using Python 3, Node.js, and MySQL

DATA DIODE USING RASPBERRY PI FOR SECURE DATA TRANSFER

Constructed using Raspberry Pi and modified RJ-45 connector with software written in Python; was cheaper by a factor of 20 when compared with commercially available solutions