

ASHISH PATEL

**Sr.AWS AI ML Solution Architect at IBM &
Author (Hands on time Series Analysis with Python)**

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OBJECTIVE

Data scientist and researcher with 7.5 + years of experience and a Total of 11 + years of experience in wide functions, including Predictive modelling, MLOps, Data Pre-processing, Feature engineering, Machine learning, Deep learning, Computer Vision, Natural Language Processing, Audio Processing, Satellite Image Processing, Quantum Computing, Quantum Machine learning, Enterprise LLMs Services.

EDUCATION

Gujarat Technological University

2013 - **2015**

Master of Computer Engineering

HemChandracharya University

2007 - **2011**

Bachelor of Information Technology

EXPERIENCE

IBM India Pvt Ltd, Gift City, Gandhinagar

2022(May) - **Current**

Sr.AWS AI ML Solution Architect

- Design and/or deliver solutions, assets, and content with MLOps Architecture Design.
- Apply methodology and governance around project development.
- Document and articulate a clear understanding of customer/partner success criteria.
- Apply critical thinking, technical knowledge, and customer/partner insights to solve problems with industry methodologies and frameworks.
- Collaborate with IBM and AWS specialists to design and build complex enterprise solutions with the foundation of Red Hat Open Shift, AWS Infrastructure, and IBM Software technology.
- Standardize solutions in accordance with the AWS Well-Architected Framework across all pillars, including operational excellence, security, performance efficiency, cost optimization, and reliability.
- Leveraged state-of-the-art language model architectures such as GPT and BERT for natural language understanding tasks and applied transfer learning techniques for fine-tuning pre-trained language models for specific downstream tasks, while ensuring seamless integration into LLMOps pipelines for efficient deployment and monitoring.
- Implemented techniques for model interpretability and explainability to understand model predictions while ensuring compliance with ethical guidelines and fairness principles in language model development.

- Define, lead, and execute architecture design workshops and whiteboarding sessions to build implementation plans.
- Develop deep relationships with key customers through solution integration to drive long-term IBM and AWS adoption.
- Team well with our critical **IBM & Red Hat business units and strategic partners** to support our partnership.
- Consult as a **subject matter expert on our IBM/AWS technology** and Watsonx.ai services portfolio.
- Author use cases, reference architectures, blog posts, and other field and external content.
- Work in sandbox environments to demonstrate IBM Hybrid Cloud Capabilities with AWS.
- Work with **IBM Research** on Cross-functional Research concepts on all AI technology.

Enterprise LLMs Services: Amazon Bedrock, Amazon Titan, IBM WatsonX.ai, Azure OpenAI, NvidiaNemo, Google PaLM

Cygnnet Infotech Pvt Ltd.

2020(Apr) - 2022(May)

Sr. Data Scientist

- Engage proactively with customers to cultivate relationships, identify ML/AI use-cases, and integrate solutions into existing business processes.
- Expertise in feature selection, classifier construction, and optimization using advanced machine learning methodologies.
- Proficient in data mining techniques employing state-of-the-art methods and adept at handling large-scale data through ETL processing tools such as Pyspark and Data Bricks.
- Extend organizational data assets by integrating third-party information sources when necessary, enhancing analytical capabilities.
- Enhance data collection protocols to encompass pertinent information crucial for constructing robust analytic systems.
- Execute comprehensive data processing, cleansing, and validation procedures to ensure the integrity of data utilized for analysis.
- Conduct ad-hoc analyses and present findings transparently to stakeholders, fostering informed decision-making.
- Develop automated anomaly detection systems and continuously monitor performance metrics to uphold operational efficiency.
- Innovate and devise statistical models tailored for in-depth data analysis, leveraging advanced methodologies.
- Lead data strategy initiatives, identifying and integrating new datasets to augment product capabilities in collaboration with engineering teams.
- Collaborate closely with product design and engineering teams to comprehend requirements and uphold quality standards.
- Analyse data for emerging trends and patterns, interpreting findings with a clear strategic objective in mind.
- Deliver deep learning and machine learning-based solutions to address diverse real-world challenges effectively.

Projects: *Recommendation System, Chatbot Architecture Designing, Image Classification based project*

Prompt Softech Pvt Ltd (Amul Affiliated Company)

2019(Apr) - 2020(Feb)

Sr. Data Scientist

- Spearhead the research and development of innovative statistical models tailored for comprehensive data analysis.
- Serve as the principal data strategist, spearheading the identification and integration of novel datasets to enhance product capabilities. Collaborate closely with engineering teams to devise and implement data-driven product development strategies.
- Collaborate effectively with product design and engineering teams to discern requirements and ensure quality standards are met.
- Propose and oversee the execution of data-driven projects aimed at advancing the organization's strategic objectives.
- Conduct in-depth analysis of data to identify emerging trends and patterns, interpreting findings with a clear strategic objective in mind.
- Implement rigorous cross-validation techniques to validate the generalizability of statistical models.
- Stay abreast of technical advancements and industry trends within the dairy sector, maintaining a comprehensive understanding of relevant developments.
- Methodically execute analytical experiments to address diverse challenges and deliver impactful solutions across various domains within the dairy industry.
- Provide mentorship and practical guidance to junior data scientists, monitoring their performance and facilitating their professional development as needed.
- Employ advanced deep learning and machine-learning methodologies to tackle real-world challenges, selecting and implementing solutions tailored to specific business requirements.

Projects: *Milk Adulteration, Calf Behaviour Analysis, Calf health prediction, Animal Lameness detection etc.*

Softweb Solutions (Avnet Company Fortune 500)

2018(Jan) - 2019(Sep)

Sr. Data Scientist

- Proficiently apply hands-on experience to meticulously select features, develop, and optimize classifiers using cutting-edge machine-learning techniques.
- Lead efforts to enhance data collection procedures, incorporating pertinent information essential for constructing robust analytic systems.
- Execute data processing, cleansing, and integrity verification procedures to ensure the reliability of data used for in-depth analysis.
- Conduct ad-hoc analyses with a keen eye for detail, effectively presenting results in a clear and concise manner to diverse stakeholders.
- Architect and implement anomaly detection systems, consistently monitoring performance metrics to uphold operational excellence.
- Possess a profound understanding of Statistics, Feature Engineering, Model Selection, Model Evaluation, and Feature Scaling, contributing to the development of highly accurate machine learning solutions.
- Proficiency in tuning and optimizing ML/DL models to drive performance improvements and meet business objectives.
- Engage in hands-on project work spanning various machine learning techniques, contributing to the expansion and diversification of the organization's portfolio.
- Demonstrate strong problem-solving capabilities, effectively addressing complex challenges to achieve desired outcomes.
- Utilize industry-leading technologies and frameworks including pandas, NumPy, matplotlib, NLTK (NLP), Keras (Deep Learning), TensorFlow, scikit-learn (Machine

Learning), and OpenCV, to deliver innovative solutions and remain at the forefront of technological advancement.

- Applied efficient data pipeline design principles to ensure scalability and maintainability.
- Implemented data quality checks and monitoring mechanisms to uphold data integrity.
- Utilized distributed computing frameworks like Apache Spark to process large volumes of data in parallel.
- Designed and optimized databases and storage solutions for efficient data retrieval and storage.

Projects: *Image Classifications, Facial Expression Recognitions, Recommendation system, Predictive Modelling, Regression Analysis*

Solaris Publication

2017(Jan) - 2018(Sep)

Jr. Data Scientist

- Proficient in gathering requirements from the Business Team, ensuring alignment with organizational objectives and needs.
- Demonstrated ability to enhance training data through advanced techniques such as Image Augmentation, optimizing model performance and robustness.
- Applied Transfer Learning methodologies effectively to achieve notable accuracy improvements, leveraging existing model knowledge for new tasks.
- Successfully implemented Deep Learning image classification models, utilizing cutting-edge techniques to extract meaningful insights from complex datasets.
- Validated models on extensive datasets comprising thousands of images, ensuring reliability and accuracy in real-world scenarios.

Projects: *Image Classification, Seasonality Trends Analysis, Recommendation System*

Silver oak College of Engineering and Technology

2015(Dec) - 2016(Dec)

Assistant Professor

- Facilitated the comprehensive teaching of academic syllabi to students, incorporating practical laboratory sessions to reinforce theoretical concepts.
- Provided mentorship and guidance to students undertaking their master's thesis projects in the field of Data Mining and Deep Learning, assisting them in navigating complex research challenges and achieving academic excellence.
- Pioneered collaborative efforts with students to embark on new research projects leveraging cutting-edge technologies, fostering innovation and exploration in academic settings.
- Offered expert guidance and support to students throughout the duration of their academic projects, ensuring clarity of objectives and successful project completion.

L.D. College of Engineering

2015(May) - 2015(Dec)

Jr. Data Scientist

- Deliver engaging lectures on Information Technology topics, ensuring alignment with academic standards and industry relevance.
- Develop and update course materials, including assignments and assessments, to reflect current trends in Information Technology.

- Mentor students in their academic pursuits, offering support on coursework, projects, and career development.
- Collaborate with colleagues and industry professionals to organize workshops, seminars, and guest lectures to enrich the learning experience.

SKILLS

- ✓ **Programming Languages:** Python, R
- ✓ **Databases:** PostgreSQL, Redshift, MongoDB
- ✓ **MLOps Framework:** MLflow, Kubeflow, DVC, Docker, Kubernetes, OpenShift, Amazon SageMaker, EKS, ECS, ECR, GitLFS, SageMaker Features Store.
- ✓ **Big Data Frameworks:** Hadoop streaming, DataBricks, Kafka
- ✓ **Libraries:** pandas, NumPy, Sklearn, SciPy, Keras, nltk, spacy, matplotlib, pyserial, TensorFlow, Pytorch, Pyspark
- ✓ **Machine Learning:** Regression, Random Forest, boosted decision trees, naive Bayes, SVM, k- means clustering, SVD/PCA, Anomaly Detection, Deep Learning algorithms, Time Series Analysis, Sequence2Sequence learning, Meta-learning.
- ✓ **Deep learning:** NN, RNN, LSTM, GRU, CNN, Transfer Learning, Optimization of Algorithm, Regularization, Hyperparameter Tuning, Batch Normalization
 - Object Detection Algorithm: YOLOv5, SSD, RetinaNet, R-CNN, Faster R-CNN, Efficient Det
 - Semantic Segmentation Algorithms: Unet, FCN, SegNet, DeepLab, DeepLabv3 Unet++
 - Generative Adversarial Networks: GAN, Style GAN, DC GAN, SRGAN, ESRGAN
 - Instance Segmentation: Mask R-CNN, CenterMask
 - Vision Transformer, Autoencoder, Capsule Net, RBF, Deep Belief Network, Variance Auto Encoder, Wavelet CNN, etc.
- ✓ **Natural Language Processing:** Encoder-Decoder Model (BERT, ALBERT, etc.), NER, Language Modelling, etc.
 - Frameworks: NLTK, Spacy, Gensim, Transformers, torchtext etc.
- ✓ **Statistics:** Descriptive Statistics, Inference Statistics, Bayesian Inference
- ✓ **Enterprise LLMs Services Expertise:** Amazon Bedrock, Amazon Titan, IBM WatsonX.ai, Azure OpenAI, NvidiaNemo, Google PaLM
- ✓ **LLMs Knowledge:** LLaMa2, GPT-4, Claude, ChatGPT, OpenChat, UltraLM, OpenCoderPlus, WizardLM, Nous Hermes, Vicuna, Baize-v2, Guanaco, Minotaur, Davinci003, Falcon, Alpaca Farm PPO Sim (GPT-4), Pythia, Cohere, Alpaca Farm PPO Human, Cohere Chat, Alpaca, Falcon 7B Instruct, Davinci001.
- ✓ **Cloud Technology:** AWS, GCP, Azure all cloud related Machine learning Services.

CERTIFICATE AND ACHIVEMENT

- Technical Book Reviewer with Manning Publication, Packt Publication, and Apress Publications, BPB publication.
- Achieved Star Club Member of GitHub contains more than 25k+ [stars](#) and 5.3k+ GitHub followers including LLM Engineering Repos.
- Certified Quantum Computing Practitioner from Qubit by Qubit (The coding school) MIT and Oxford University join Program.
- IBM Certified Quantum Computing and Quantum Machine learning Practitioner.
- Published more than 20+ Research papers with Publications such as IEEE, Taylor Frances, Springer, etc.
- **Book Author of Hands-on Time Series Analytics with Python** - [Book](#)
- Coursera Certified Specialization in TensorFlow in Practice, Deep learning AI, Advance Data Science with IBM

Link: <https://www.linkedin.com/in/ashishpatel2604/>

- Three-time potential Kernel Winner on World's best data science platform Kaggle (Google Data Science Platform)
- **Google Cloud Certificates:** Introduction to Generative AI, Generative AI Fundamentals
- **Advanced Certificate:** IBM Quantum Challenge (Advanced)
- **Speaker** at AWS Community Day AI/ML Edition Day Vadodara 2023 & Google Developer Groups Event 2023.

PERSONAL

- **Citizenship:** India
- **Languages:** English, Hindi, Gujarati
- **Interests:** Traveling, photography, distance running, choir, fantasy baseball

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