

Neel Shah

AI ENGINEER · AZURE DATA SCIENTIST ASSOCIATE

Gujarat, India. (Willing to Relocate)

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Summary

Innovative AI Engineer with expertise in machine learning, deep learning, computer vision, and NLP. Proven ability in fine-tuning open-source models for domain-specific applications, delivering impactful business value. Actively advancing knowledge in reinforcement learning (RL), working on cutting-edge AI research. **3x Hackathon Winner**, with notable achievements in the **NVIDIA OpenACC International Hackathon**, Amazon ML Challenge, and Meesho Visual Taxonomy Data Challenge 2024. Acknowledged for skills in **data engineering**, **MLOps**, and recommendation systems, adept at **streamlining end-to-end machine learning workflows** from experimentation to production. Microsoft Azure Certified Data Science Associate, **leveraging cloud technologies for scalable AI solutions**. Committed to applying AI and data engineering expertise to drive innovation and efficiency across industries.

Work Experience

Neuramonks

Gujarat, India (Hybrid)

AI ENGINEER (INTERNSHIP)

Feb. 2025 - present

- Collaborated in developing a **production ready and scalable** AI-powered recommendation chatbot for a fashion platform, enhancing product discovery and product recommendation through personalized user interactions.
- Contributed to the implementation of a virtual try-on system for fashion products by successfully replicating the **CATVTON** research paper methodology, resulting in an efficient and production-ready solution.
- Collaborated to make an innovative **metric learning solution** for a font marketplace that classified font images and matched them with **top-k similar fonts** from a catalog of approximately **2 million options**, designing a scalable and production-ready system that dynamically incorporated weekly font additions without requiring full model retraining, which significantly reduced computational costs while enabling users to easily identify and purchase fonts based on image samples.

Aviato Consulting

Australia (Remote)

AI ENGINEER (INTERNSHIP)

May. 2024 - Jun. 2024

- Engineered AI-driven solutions for virtual fashion try-ons and B2B customer interactions using **deep learning, multi-agent systems, recommendation engines, and Neo4j on Google Cloud Platform (GCP)**.
- Developed personalized and interactive experiences by implementing multi-agent systems and sophisticated recommendation engines, enhancing user engagement and satisfaction.
- Integrated AI innovations into real-world applications for **Australian clients**, demonstrating the potential of AI to revolutionize various sectors and elevate user experiences.
- Empowered consumers with informed fashion choices and businesses with deeper customer insights, driving significant advancements in fashion retail and customer relationship management industries.
- Contributed to projects that **received outstanding client feedback and achieved remarkable business outcomes**, showcasing the tangible benefits of AI.

Charusat Learning And Development Club (CLDC)

Gujarat, India

AI DEVELOPER

May 2023 - Jun. 2023

- Spearheaded the development of a deep learning-based **botnet detection model using TensorFlow, Keras, and Python**, enhancing **cyber-security** by identifying and neutralizing malicious botnet activities.
- Played a pivotal role in creating an advanced **emotion detection model**, utilizing deep learning techniques to accurately recognize and classify human emotions from video and audio data.
- Utilized **agile methodologies, robust problem-solving, and effective communication** to drive project success.
- Leveraged AI to deliver impactful solutions, showcasing technical expertise and a passion for continuous learning and excellence in the field.

Certifications

Stanford University	Machine Learning Specialization
Nvidia	Fundamentals of Accelerated Computing with CUDA Python
Microsoft	Certified Azure Data Scientist Associate, Data Science with Azure Databricks
Huggingface	Deep Reinforcement Learning
DeepLearning.AI	TensorFlow Developer, Deep Learning, Generative AI with Large Language Models, Convolutional Neural Networks.
RedHat	Fundamentals of Redhat Enterprise Linux 9
Oracle	Oracle Certified Professional, Java SE 6 Programmer
IIT Ropar	Deep Learning
IIT Madras	Reinforcement Learning
IIT Kharagpur	Data Structure and Algorithms Using Java, Data Base Management System, Machine Learning
Neo4j Graph Academy	Neo4j Graph Data Science Certification, Neo4j Data Modelling Fundamentals, Neo4j & LLM Fundamentals

Achievements

- Won **1st place** in a competition organized by the **Adani Institute of Digital Technology Management**, sponsored by **MSBC Group**.
- Secured **3rd position** among 180 top-tier teams in The Maverick Effect AI Challenge 2024, supported by **NASSCOM** and other prestigious organizations.
- Clinched **2nd place** in the **IndoML Datathon 2024 (Phase 1)**, sponsored by **Nieleniq**, competing against **350+ teams** from all over India.
- Secured **8th place(Top 2%)** in the **IndoML Datathon 2024 (Phase 2)**, sponsored by **Nieleniq**, competing against **410 teams** from across India. Our team demonstrated advanced machine learning techniques to solve complex data challenges, earning recognition in this highly competitive event. Additionally, we were invited to **BITS Pilani** with a generous travel grant to attend **IndoML 2024** in person.
- Secured **64th place (Top 0.1%)** out of **20,000+ teams** in the **Amazon ML Challenge 2024**, utilizing **400+ GPU hours** over three days to refine the solution.
- Team was able to secure a **top 5 position** in the Healthathon organized by the I Am Patient organization and MSBC Group.
- Selected as a finalist in the **AI Hackathon 2024**, hosted at the esteemed Indian Institute of Management (IIM), Ahmedabad, demonstrating innovative AI solutions among top-tier developers.
- Secured **23rd rank (Top 11%)** out of **196 teams** in the prestigious **Meesho Visual Taxonomy Data Challenge CODS COMAD**, developing a machine learning model to predict product attributes from images.
- Led a team that secured **2nd position** at the University level in the **Smart India Hackathon 2023**, a nationwide innovation and problem-solving initiative.
- Achieved the distinction of being among the **top 11 teams** selected from across India to participate in the prestigious **OpenACC Nvidia Hackathon**, hosted at IISc, Bangalore.
- Achieved **Top 5% nationwide** performance in the Database Management System course by IIT Kharagpur via NPTEL.
- Recognized as an **NPTEL Discipline Star** for completing over 50 weeks of IIT courses in computer science with a consistent score, demonstrating commitment and expertise in the field.

Skills

Data Science	Machine Learning, Deep Learning, Reinforcement Learning, MLOps, Computer Vision
Agentic Systems	CrewAI, llamaIndex, Langchain
Programming Languages	Python, Java, SQL
Cloud Platforms	Microsoft Azure, Google Cloud Service (GCP), Databricks
Business Intelligence (BI) Tools	Power BI
Frameworks and Libraries	Pytorch, Tensorflow, Keras, Scikit-Learn, Numpy, Pandas, Matplotlib, OpenCV, Seaborn, Numba
Databases	Oracle SQL, MongoDB, Neo4j, Neo4j Graph Data Science (GDS)
MLOps Tools	Git, GitHub, Docker, Apache Airflow, WandB, Astro, MLflow, DVC, Microsoft Fabric, Apache Spark(Beginner)
Operating Systems	Linux, Windows
Languages	English, Hindi, German (Beginner), Gujarati

Education

Charotar University of Science and Technology (CHARUSAT)	<i>Gujarat, India</i>
BACHELOR OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	Sep. 2022 - Apr. 2026 (Expected)
• CGPA: 9.6	
Smt. Parvatiben Bhalchandra Dhirubhai Joshi Higher Secondary School	<i>Gujarat, India</i>
PRIMARY, SECONDARY, AND HIGHER SECONDARY (SCIENCE)	2022
• 10th Grade: 92.98th Percentile	
• 12th Grade: 87.96th Percentile	

Projects

DigiManuf: AI-Powered Digital Twin Ecosystem

GitHub: Link

- Developed **DigiManuf**, an AI-powered Digital Twin Ecosystem for real-time monitoring, **predictive maintenance**, and anomaly detection in manufacturing.
- Implemented **Digital Twin Technology** with interactive 3D visualizations, synchronized with real-time IoT data for efficient management.
- Integrated **AI-driven predictive maintenance** and simulation capabilities to optimize decision-making in distributed manufacturing environments.

Brain - TV

- Developed an **AI neuroscience application** using an **Encoder-Decoder architecture** with **ViT (Vision Transformer)** and **diffusion models** to visualize human thoughts from fMRI signals.
- Focused on masked brain modeling and latent diffusion model conditioning using **fMRI latent data**.

MediPriority: AI-Driven Healthcare Management System

GitHub: Link

- Developed **MediPriority**, an AI-driven healthcare management system to streamline patient care from **pre-consultation to post-consultation**.
- Implemented **multi-agent AI systems**, including text and video analysis agents, urgency scoring, and personalized health recommendations.
- Integrated **dynamic urgency scoring**, **AI avatars for post-consultation support**, and **Google Calendar synchronization** for seamless patient management.

PROTEAI – PROTEin-based AI for Therapeutic Drug Discovery

- Developed a **sequence-to-sequence (Seq2Seq) model** based on ByT5-base architecture to translate protein sequences into SMILES representations of potential drug molecules.
- Utilized **byte-level tokenization strategy** that enhanced robustness and reduced preprocessing complexity compared to conventional methods.
- Explored multiple approaches including character-level multi-class classification and other techniques to optimize the protein-to-compound prediction process.
- Contributed to AI-driven methodologies aimed at accelerating the drug discovery process in pharmaceutical research.

Publications

- **DemocraticNet: A Deep Learning Pipeline for Multi-Class Multi-Label Ministry News Classification.** *ICTCS 2024.*
- **Machine Learning–Enabled Digital Twins for Diagnostic and Therapeutic Purposes.** *AI-Enabled Blockchain Technology and Digital Twin for Smart Hospitals.*
- **The Future of Manufacturing with AI and Data Analytics.** *AI-Enabled Digital Twin for Smart Manufacturing.*
- **Future of Large Language Models and Digital Twins in Precision Healthcare: A Symmetric Literature Review.** *Journal of Propulsion Technology.*

Extracurricular Activity

Board of Studies, Artificial Intelligence and Machine Learning

Faculty of Technology, Charusat University

STUDENT REPRESENTATIVE

2023 - present

- Acted as a key liaison between students and faculty, representing student interests in curriculum discussions and decision-making processes.
- Provided valuable input on course content, program structure, and academic policies to ensure the relevance and quality of the AI and ML curriculum.

AI For All Meet-Up 1.0 & 2.0

Dept. of AIML, Charusat University

COORDINATOR

Sep. 2023 & Sep. 2024

- Facilitated collaboration and discussions between AI experts and professionals from various other fields, Created an inclusive environment for knowledge sharing, making AI technologies accessible and relevant to all participants.

Web Development using React.js

Computer Society of India & IEEE

RESOURCE PERSON

Sep. 2022

- Facilitated engaging hands-on learning sessions on React.js, Node.js, MongoDB, and Express.js for a group of enthusiastic participants.

AI Frontiers

IEEE Student Branch & Innovators Club

RESOURCE PERSON

March 2025

- Led peer-to-peer workshop on RAG, GANs & YOLO technologies in collaboration with IEEE Student Club, **impacting 150+** students with hands-on demonstrations and interactive sessions.

References

Mr. Ben King

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FOUNDER AT AVIATO CONSULTING

Dr. Nirav Bhatt

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HEAD OF THE DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING AT CHARUSAT UNIVERSITY

Mr. Gunjan Shah

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SENIOR TECHNICAL LEAD AT HCL TECHNOLOGIES LIMITED