Neel **Shah**

AI ENGINEER · DATA SCIENTIST

Ahmedabad, Gujarat, India. (Willing to Relocate)

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"Be the visionary who passionately weaves technology into the fabric of our future."

Summary

Innovative AI Engineer with proven expertise in machine learning and probabilistic modeling, tackling real-world challenges head-on. Mastery of cutting-edge AI concepts, from deep learning to NLP and computer vision. Published researcher in healthcare AI, currently leading two pioneering projects advancing the state-of-the-art. A **2x Hackathon Winner**, including **1st place at the DataQuest2024 Hackathon** and **2nd runner-up in another**, demonstrating a strong track record in competitive AI problem-solving. Selected among the **top 11 teams** in the **NVIDIA OpenACC international hackathon** and ranked in the **top 5% in IIT Kharagpur**'s DBMS course. **Microsoft Azure Certified Data Science Associate**, adept at leveraging cloud infrastructure for AI applications. Skilled in Databricks and MLOps, streamlining the entire machine learning lifecycle from experimentation to production. Combines technical prowess with practical experience to deliver impactful, scalable AI solutions. A visionary problem-solver, consistently translating complex AI theories into real-world applications that drive innovation and efficiency across industries.

Work Experience

Aviato Consulting
Australia (Remote)

AI ENGINEER
Jan. 2016 - Jun. 2017

- 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.
- 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 cybersecurity** 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.

Skills

Data Science and Machine Learning	Machine Learning, Deep Learning, Reinforcement Learning, Computer Vision, MLOps
Web Development	MERN Stack (MongoDB, Express.js, React.js, Node.js), Fast API, Flask
Programming Languages	Python, Java, JavaScript, SQL, R Programming, Cypher, LaTeX
Cloud Platforms	Microsoft Azure, Google Cloud Service (GCP), Databricks
Business Intelligence (BI) Tools	Tebulu, 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)
Mobile APP Development	Flutter (Beginner)
Development Tools	Git, GitHub, Docker, Weights and Biases (WandB)
Operating Systems	Linux, Windows
Languages	English, Hindi, **German (Beginner)**, Gujarati

Education

Charotar University of Science and Technology (CHARUSAT)
Gujarat, India

BACHELOR OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
Sep. 2022 - Apr. 2025 (Expected)

- CGPA: 9.6
- Course Work: Database Management Systems, Data Structure and Algorithms, Design and Analysis of Algorithms, Operating Systems, Artificial Intelligence, R programming, Power BI, Tableau

Smt. Parvatiben Bhalchandra Dhirubhai Joshi Higher Secondary School *Gujarat, India*

Primary, Secondary, and Higher Secondary (Science) *2022*

- 10th Grade: 92.98th Percentile
- 12th Grade: 87.96th Percentile
- Course Work: Math, Physics, Chemistry

Achievements

2024	**Winner**, Clinched **1st place and a 70,000 INR prize** in a prestigious competition organized by **Adani** Institute of Digital Technology Management, sponsored by **MSBC Group**. Our team was selected from **120 talented individuals**, showcasing innovative solutions to real-world data challenges.	*MSBC Group*
2024	**2nd Runner-up**, Secured the 3rd position and **won a prize of 80,000 INR among 180 top-tier teams** in The Maverick Effect AI Challenge 2024, a prestigious hackathon supported by **NASSCOM**, GESIA IT Association, **Gujarat Technological University (GTU)**, TiE Ahmedabad, TiE Surat, TiE Vadodara, FICCI, Confederation of Indian Industry, and ASSOCHAM.	*NASSCOM*
2024	**Finalist**, Selected as a finalist for the AI Hackathon 2024, jointly organized by Navatech Group, MSBC Group, and **Google for Developers**, demonstrating innovative AI solutions and competing among top-tier developers, hosted at the esteemed Indian Institute of Management (IIM), Ahmedabad.	*IIM Ahmedabad*
2024	**Top 5% Nationwide**, Achieved outstanding performance in the Database Management System course offered by IIT Kharagpur through the NPTEL.	*IIT Kharagpur*
2023	**2nd Award**, Led a team that secured 2nd position at the University level in the **Smart India Hackathon 2023**, a nationwide innovation and problem-solving initiative.	*SIH Hackathon*
2023	**Finalist**, Achieved the distinction of being among the **top 11 teams** selected from across India to participate in the prestigious International **OpenACC Nvidia Hackathon**, hosted at the esteemed Indian Institute of Science (IISc), Bangalore.	*IISc. Bangalore*

Industry Certifications

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

Projects

Democratic Net – Defending Against Misinformation

- Developed a platform leveraging deep learning models like **Bi-LSTM, BERT, and Roberta (72.3% top-3 accuracy)** to combat misinformation and fake news threatening democratic institutions. **Curated proprietary dataset** to train the models for efficiently analyzing and counteracting false narratives aimed at destabilizing nations.

Veterinary Bacteria Classification

- Rapid bacterial species identification is crucial across domains. Traditional lab methods relying on biochemical/molecular biology techniques are costly, time-consuming, and require expert knowledge due to complex sample preparation.
- **Fine-tuned** a bacterial identification model experimenting with various deep learning architectures including **VGG16, DenseNet, XceptionNet, EfficientNet**, and others. The model achieved a remarkable **98.6% top-1 accuracy** in classifying 24 bacterial species from non-microscopic(traditional way) images.

Brain - TV

- Developed an **AI neuroscience application**, involved developing an **Encoder-Decoder architecture** using deep learning architectures like **ViT (Vision Transformer)** and **diffusion model** to visualize images based on human thoughts captured through fMRI signals. The project comprised two key parts: masked brain modeling and latent diffusion model conditioning by **fMRI latent data.**

MediPriority - Dynamic AI-Driven Healthcare System

- It is a AI-driven platform that transforms patient care by integrating advanced technologies like **Semantic Search, Vision Language Models, and a Multi-Agentic Approach**. By **focusing on mental health support** through AI Avatars and employing **dynamic appointment scheduling based on urgency**, MediPriority effectively addresses the inefficiencies of traditional healthcare systems.
- The platform enhances patient outcomes by providing continuous, personalized support and motivation while **prioritizing care based on real-time assessments**. This comprehensive approach ensures that patients receive timely and responsive healthcare, significantly improving both their mental and physical well-being.

Publications

Future of Large Language Models and Digital Twins in Precision Healthcare: A Symmetric Literature Review   *Tuijin Jishu/Journal of Propulsion Technology*

Neel Shah, Dr. Nirav Bhatt, Dr. Nikita Bhatt   *Dec. 2023*

Extracurricular Activity

Board of Studies, Artificial Intelligence and Machine Learning   *Faculty of Technology, Charusat University*

Student Representative   *2023 - 2025*

- 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   *Dept. of AIML, Charusat University*

Coordinator   *Sep. 2023*

- Played a pivotal role in the successful coordination of the "AI FOR ALL MEET-UP."
- 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 learning sessions on React.js, Node.js, MongoDB, and Express.js for a group of enthusiastic participants.
- Delivered comprehensive hands-on training to help individuals master key aspects of full-stack web development.

References

Dr. Nirav Bhatt   *hod.aiml@charusat.edu.in*

Head of the Department of Artificial Intelligence and Machine Learning at Charusat University

Mr. Gunjan Shah   *shahgunjan07@gmail.com*

Senior Technical Lead at HCL Technologies Limited

Mr. Ben King   *ben@aviato.consulting*

Founder at Aviato Consulting