NEEL SHAH

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SUMMARY

A self-motivated AI Researcher with proven expertise in planning, applying machine learning, and probabilistic modeling algorithms to solve multifaceted real-world problems. Possesses a deep understanding of critical concepts including machine learning, deep learning, reinforcement learning, computer vision, natural language processing, and inference systems. **Skilled at leveraging GPUs and supercomputer clusters** to execute complex experiments and implement innovative solutions. A published author with an AI-based healthcare research paper in a renowned Scopus-indexed journal. Currently engaged in two active research projects focused on advancing the state-of-the-art in AI. **Selected among the top 11 teams in the NVIDIA OpenACC international hackathon** and also in the **top 5% in the IIT Kharagpur** database management systems course.

WORK EXPERIENCE

AI Developer, Charusat Learning And Development Club (CLDC) — **May 2023 - June 2023**

- As part of a team, I was responsible for developing a deep learning-based **botnet detection** model, capable of identifying and mitigating malicious botnet activities. Additionally, I contributed to the implementation of an **emotion detection** model using deep learning techniques, which was trained on both video and audio data to accurately recognize and classify human emotions.

SKILLS

Python	★★★★★	**MERN Stack**	★★★☆☆
Java	★★★★☆	**Oracle SQL**	★★★★☆
Deep Learning	★★★★☆	**Mongo DB**	★★★☆☆
Machine Learning	★★★★☆	**R Programming**	★★★☆☆
Data Analytics	★★★★★	**Linux**	★★★★☆
Computer Vision	★★★★☆	**Microsoft Azure**	★★★★☆

PACKAGES

Tensorflow, Keras, Scikit-Learn, Numpy, Pandas, Matplotlib, Open CV, Streamlit, Numba, Jupyter Notebook, Seaborn, Tmux, NodeJs, ReactJs, Collection Framework.

OTHER TECHNOLOGIES

Git, Github, Docker, Cloud, WandB, Jira.

EDUCATION

Bachelor of Artificial Intelligence And Machine Learning — **Sep. 2022 - Oct. 2026**

Charotar University of Science and Technology

- CGPA - 9.54
- Industry Certifications
  - **Standford University** - Machine Learning specialization
  - **IIT Kharagpur** - Data Structure and Algorithms Using Java, Database Management Systems.
  - **DeepLearning.AI** - TensorFlow Developer, Deep Learning, Generative AI with Large Language Models, Convolutional Neural Networks.
  - **NVIDIA** - Fundamentals of Accelerated Computing with CUDA Python.
  - **Oracle** - Oracle Certified Professional, Java SE 6 Programmer.
  - **RedHat** - Fundamentals of Redhat Enterprise Linux 9.
  - **Samatrix.io** - Data Analysis using Python, Foundation of Data Analysis and Data Analytics
- Course Work
  - Database Management Systems, Data Structure and Algorithms, Design and Analysis of Algorithms, Operating Systems, Artificial Intelligence, R programming.

Higher Secondary School — **Mar. 2020 - Mar. 2022**

Smt. Parvatiben Bhalchandra Dhirubhai Joshi Higher Secondary School - 87.96 PR

Primary and Secondary School — **Mar. 2019 - Mar. 2020**

Smt. Parvatiben Bhalchandra Dhirubhai Joshi High School - 92.98 PR

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.
  - **Finetuned** 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**.

PUBLICATION

- Future of large language models and digital twins in precision healthcare: A symmetric literature review - Tuijin Jishu/Journal of Propulsion Technology

ACHIEVEMENTS & EVENT PARTICIPATION

- 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**.
- Led a team that secured **2nd position at the University level in the Smart India Hackathon 2023**, a nationwide innovation and problem-solving initiative.
- **Topper 5% in the IIT Kharagpur** NPTEL Database Management System course.
- Presented a paper at the **International Conference on Recent Trends and Science Technology (ICRTST) 2023**.
- Earned the honor of representing my department at the university-level **Student Startup and Innovation Policy (SSIP) Competition**, after being shortlisted for this esteemed event.
- Participated in the **Accenture Innovation Challenge 2023**, a platform that fosters creative thinking and innovative solutions to real-world problems.
- **Coordinated** the **AI FOR ALL MEET-UP** at Charusat University, an interdepartmental event aimed at **promoting collaborative research projects** and fostering a culture of innovation in the field of Artificial Intelligence.
- Served as a **resource person** for a two-day event organized by the **Computer Society of India** and **IEEE**, where I conducted sessions on web development using ReactJS, sharing my expertise and knowledge with attendees.

REFERENCES

- Dr. Nirav Bhatt - Head of the Department of Artificial Intelligence and Machine Learning, **CHARUSAT University**
  - Email - hod.aiml@charusat.edu.in
- Mr. Gunjan Shah - Senior Technical Lead at **HCL Technologies Limited**
  - Email - shahgunjan07@gmail.com

LANGUAGES

English, Hindi, Gujarati (Native), German (Beginner, currently learning).

PROFILE LINKS

- LinkedIn - https://www.linkedin.com/in/neeldevenshah/
- Github - https://github.com/NeelDevenShah