Harsh Shah

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Available: Spring 2025/Summer 2025

EDUCATION

Northeastern University, Boston, MA — Jan. 2024
Master of Science in Computer Science, **GPA: 4.0/4.0** — Graduation: Dec. 2025
Relevant courses: Programming Design Paradigm, Foundations of Artificial Intelligence

Savitribai Phule Pune University, Pune, India — June 2023
Bachelor of Engineering in Computer Engineering, **GPA: 9.11/10.0**

SKILLS

Languages:	Java, C++, Python, Go, JavaScript
Web Technologies:	HTML, CSS, React, NodeJS, Angular
Databases:	MySQL, Microsoft SQL Server, MongoDB, PostgreSQL
Cloud & Ops:	Grafana, Prometheus, CI/CD, Docker, Jenkins
Frameworks:	Kubernates, Tensorflow, Keras, Pytorch, Scikit-learn, NLTK, Java Swing, JUnit

WORK EXPERIENCE

Northeastern University, Boston, Massachusetts — May 2024 – Present
- TA for CS 3000 (**Algorithms and Data**) course for the **Summer-1 and Fall 2024 term**.

Knorr-Bremse Technology Center India Pvt, Ltd., Pune, India — Apr. 2022 – Apr. 2023
Software Engineer Intern
- Improved the efficiency and accuracy by **70%** in data management process by automating the process of MS SQL database updation by developing a **Python** script.
- Designed and maintained **Microsoft SQL Server database schema** to support various Software Engineering Key Performance Indicator (KPI) metrics following the **Agile methodology** for software development.
- Configured and developed **Grafana** dashboards for live data visualization of various KPI metrics.
- Improved continuous integration and deployment (**CI/CD**) of **Jenkins** pipelines by ensuring consistent and reliable deployment and maintenance processes.

ShapeAI, Pune, India — Sept. 2021 – Dec. 2021
Data Scientist Intern
- Achieved **96%** accuracy in **heart disease detection** developing a **Support Vector Machine (SVM)** model with multiple kernels along with model optimization and hyperparameter tuning.
- Used **scikit-learn** and **matplotlib** for **statistical data analysis** of patient symptoms and creating effective visualizations to observe the trend of symptoms over wide range of patients.

PROJECTS

Text Translation, Transformer and LSTM Architecture (link) — Jan. 2024 – Apr. 2024
- Collaborated on a team project to develop an efficient, high-quality text translation system using **natural language processing architectures** to promote global communication and cultural exchange.
- Developed **transformer** architecture without using any existing libraries to translate from **French** to **English** achieving an accuracy of **91%.**

Image Manipulation and Forgery Detection, Image Segmentation Model and deep learning (link) — July 2022 – May 2023
- Led a team on machine learning project to develop an image manipulation detection model using the **ResNet** and **Unet** architecture achieving an accuracy of **93%** to detect image manipulations on the **CASIA dataset**.
- Conducted a survey on existing technologies and provided a **faster way** image recognition and manipulation detection.

Driver Drowsiness Detection, OpenCV and Convolutional Neural Network (link) — July 2021 – Sept. 2021
- Created a **Python** application utilizing **OpenCV** to detect driver drowsiness in real-time using **CNNs**.
- Achieved **90%** accuracy in predicting driver drowsiness, coupled with an integrated alarm system to alert the driver to pull over, ensuring timely intervention and accident prevention.

PUBLICATIONS AND CERTIFICATES

Publications:	Exploring the Potential of Generative Adversarial Networks: A Comparative Study of GAN (link) Autonomous UAV Swarms: Powering Up with AI (link)
Certifications:	Neural Networks and Deep Learning (Coursera), Database Programming with PL/SQL (Oracle)