

SOUMIK ROY

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Technical Skills

Java, Python, MySQL, Power BI, Tableau, REST APIs, NumPy, Pandas, TensorFlow, PyTorch, Github

Internship

AI Developer Intern at EnerQuest Solutions

July 2025 - September 2025

- Designed and implemented an AI chatbot using NLP and ML techniques with intent recognition, context management, and basic prompt engineering in Python using libraries like NLTK and scikit-learn.
- Optimized dialogue flow and query handling to improve response accuracy and efficiency, integrating simple AI logic with REST APIs for user interaction.

Web Developer Intern at Pratigya NGO

June 2023 – July 2023

- Designed and developed responsive web content for Pratigya's official website during a 30-day remote internship from June 15, 2023, to July 15, 2023, significantly enhancing user interface design and website accessibility features.
- Successfully contributed to the NGO's educational mission by creating engaging digital solutions and improving online presence, directly supporting quality education initiatives for underprivileged children.

Projects

Divya-Drishti – AI-Powered Assistive Platform for Accessibility | Next.js, Twilio API, OpenCage API | [Link](#)

- Designed and developed a data-driven AI assistive platform that supports visually impaired individuals through real-time obstacle detection and enables deaf-mute users to communicate via sign language recognition, leveraging computer vision and deep learning models.
- Implemented machine learning pipelines using YOLOv5 for object detection, built and trained sign language recognition models with curated datasets, and integrated geospatial APIs like OpenCage, MapBox along with Twilio for emergency intelligence and real-time decision support.

Hasth-Akshar – A Sign Language Detection Model for Devanagari | MediaPipe, OpenCV, TensorFlow | [Link](#)

- Built a comprehensive Hindi sign language detection system using advanced stickman analysis, natural language processing, and deep learning algorithms to accurately transcribe video gestures into Hindi words. The system incorporates real-time gesture recognition with high accuracy to bridge communication gaps for the hearing-impaired community.
- Utilized cutting-edge technologies, including MediaPipe for pose estimation, OpenCV for computer vision processing, TensorFlow for deep learning model development, NLP for language processing, OpenForce framework, and a custom-curated video dataset. Implemented robust preprocessing techniques and feature extraction methods to enhance model performance and reliability.
- Worked on deep learning for algorithm development and model optimization.

Achievements

- 1st Runner-Up in Zelestra X AWS ML Ascend Challenge 2nd Edition** – Ranked among the top 50 out of 1500+ teams and 7000+ registrations in a nationwide ML competition.
- Top 100 - Amazon ML Challenge 2025** – Ranked in the Top 100 out of 82,000+ participants for developing high-performing machine learning solutions and model optimization.
- CodeClash Hackathon Finalist** – Secured finalist position among 700+ teams where we built Divya-Drishti, an AI-powered assistive platform for Specially Abled People.

Leadership & Extracurriculars

- Founder – Eureka Club** at VIT Bhopal – Founded a research and development club focused on AI/ML and Data Science projects, fostering innovation and supporting students and professors in their research work. Led and managed a team of 100+ members.
- Core Technical Team Member – IoT Club** at VIT Bhopal – Contributed as a core technical team member, helping to develop projects and build the club's website.

Education

Bachelor of Technology in Computer Science and Engineering VIT Bhopal University, Bhopal

Sep 2022 – Ongoing
CGPA: 8.89