Soumik Roy

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Technical Skills

Java, Python, C/C++, JavaScript, MongoDB, MySQL, Data Structures, Bootstrap, Git, GitHub, HTML, CSS, Web Development, AI/ML

Internship

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 comprehensive AI-powered assistive platform that enables visually impaired individuals to navigate safely through real-time obstacle detection and empowers deaf-mute users to communicate effectively using advanced sign language recognition technology. Successfully deployed the full-stack application on Vercel with seamless performance and accessibility features.
- Implemented the solution using Next.js for responsive full-stack development, integrated YOLOv5 object detection model for accurate obstacle identification, utilized Twilio API for emergency SOS call functionality, and incorporated OpenCage API with MapBox integration for precise location services.
- Served as Full-Stack Developer responsible for end-to-end application development.

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.
- **CodeClash Hackathon Finalist** – Secured finalist position among 700+ teams where we built Divya-Drishti, an AI-powered assistive platform for Specially Abled People .
- **Gen AI Using IBM Watsonx** | *IBM Career Education Program* – Completed generative AI training program focusing on IBM Watsonx platform implementation and advanced AI model development (April 16, 2025).

Leadership & Extracurriculars

- **Founder – Eureka Club** (2024-2025) at VIT Bhopal – Founded a research and development club dedicated to fostering innovation to assist students and professors in their research work. Managed a team of over 100 members across various research projects.
- **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   **Sep 2022 – Ongoing**
VIT Bhopal University, Bhopal   *CGPA: 8.83*