

# SUDARSHAN ACHARYA

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## Education

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**Tribhuvan University**, B.E. Electronics, Communication and Information 2019 – 2024 (Result Waiting)

*Relevant Coursework:* Digital logic, Computer Architecture and Graphics, Artificial Intelligence, Data Structures and Algorithms, Data Mining, Information Systems, Big Data Technologies.

## Technical Skills

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**Languages:** Python, C, C++, React.js

**Frameworks:** Flutter, Figma, Tailwind CSS, HTML5, CSS3

**Tools:** Git, MySQL Workbench, Microsoft Office

**Soft Skills:** Time Management, Teamwork, Communication, Problem Solving, Leadership

## Scholastic Projects

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### Crash Detection and Alerting System

- Learned how to integrate hardware (IMUs, GPS, GSM) with software to develop real-time alert systems.
- Gained hands-on experience in analyzing sensor data and implementing algorithms to reduce false positives in emergency alerts.

### Heritage in Focus: AI-based Image Captioning in Nepali Language Using CNN and LSTM

- Developed a deeper understanding of deep learning concepts, especially CNN for feature extraction and LSTM for sequence prediction.
- Learned how to process datasets in low-resource languages and fine-tune models for cultural and linguistic relevance.

## Research Experiences

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### Nepali Image Captioning: Generating Coherent Paragraph-Length Descriptions Using Transformer March, 2024

- Gained expertise in advanced NLP models, specifically Transformers, and their ability to generate fluent and context-rich descriptions.
- Understood the importance of dataset preprocessing, model training, and validation for high-quality language generation.

DOI: [10.36548/jscp.2024.1.006](https://doi.org/10.36548/jscp.2024.1.006)

### Drowsiness and Crash Detection Mobile Application for Vehicle's Safety April, 2024

- Learned mobile application development focused on real-time monitoring and alert mechanisms for driver safety.
- Explored integration of drowsiness detection using computer vision techniques and emergency response workflows.

DOI: [10.36548/jismac.2024.1.005](https://doi.org/10.36548/jismac.2024.1.005)

## Certificates and Grants

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### React.js - Basics to Advance, Digital Pathshala April, 2024

- Strengthened understanding of React fundamentals, state management, hooks, and UI optimization.
- Applied these skills in developing responsive and modular frontend applications.

Certificate No: CN-0000-0023

### Front-End Professional Advance React Developer, Meta July, 2024

- Gained in-depth knowledge of React's advanced features such as Redux, performance tuning, and scalable application architecture.

- Improved proficiency in debugging, testing, and building production-ready user interfaces.  
Certificate ID: 7J62KEQ7NTNL

## **Github Projects**

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- [Simple Quiz App](#)
- [To-Do-App](#)
- [Tic-Tac-Toe Game](#)
- [Digital Calculator](#)
- [Personal Blog Site](#)
- [Web Kitchen](#)
- [Podcast Player](#)
- [Password Strength checker](#)

## **Achievements**

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- Silver Medal Winner, Province Level Robo-Soccer Competition
- Gold Medal Winner, Inter College Hackathon