

# Supriya Khadka

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## SUMMARY

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Conversational AI Engineer at Diyo AI, leveraging technical expertise and problem-solving skills to develop innovative conversational systems using Natural Language Processing.

## WORK EXPERIENCE

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**Conversational AI Engineer, Diyo AI** May 2023 - present

- Building multilingual chatbots using the Rasa framework
- Conducting research on Large Language Models to develop and improve conversational models
- Analyzing user feedback and data to refine and optimize chatbot performance iteratively

**Computer Vision Research Engineer, Rara Labs (Contract)** Jan 2023 - March 2023

- Worked on the discovery phase of implementing AI for NWash, a project initiated by The Ministry of Water Supply in collaboration with the British Embassy, Frontier Tech and Rara Labs
- Successfully implemented object detection and recognition algorithms on the dataset collected through the NWash Project, seamlessly integrating them with a web application
- Conducted extensive research on computer vision algorithms to identify the most suitable solutions based on the dataset requirements

**NLP Research Intern, NAAMII** Oct 2022 - April 2023

- Researched the work done in Nepali NLP (Text Summarization, Nepali Transliteration)
- Curated Nepali NLP datasets with the study of their features and limitations (Sentiment Analysis, Nepali Text-to-Speech, Machine Translation)

## EDUCATION

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**Bachelor in Computer Engineering** November 2018 - April 2023

*Pulchowk Campus, Institute of Engineering, Tribhuvan University, Nepal* (Agg. 85.69%)

- Recipient of the Ncell Excellence Scholarship for three consecutive years (2020-2022)
- Managing Editor of The Zerone 2023, the official department magazine
- Resource Curator of the Tech Talks by IEEE Pulchowk Student Branch, 2020

**Higher Secondary Education** June 2016 - June 2018

*St. Xavier's College, Maitighar, Nepal* (GPA 3.72/4.0)

- Recipient of the Rajan Karki Memorial Outstanding Student Award, 2018
- Recipient of the end-of-session scholarship as the top-performing individual
- President of the St. Xavier's Literary Club

## SELECTED PROJECTS

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**Shruti - A Nepali Book Reader** [Link to Code](#)

- A Nepali Text-to-Speech System for audiobook applications
- Built using Tacotron-2 architecture (for spectrogram generation) and Hifi-GAN and WaveGlow (for vocoder), all of which implemented in PyTorch

## D-Shelf

[Link to Code](#)

- A decentralized platform to mint and buy books in the form of NFTs built using solidity, ethers.js, Hardhat, IPFS and React.
- Built the entire frontend using React and Material UI

## Saral Kanoon

[Link to Code](#)

- Web app for reading simplified safety laws
- Used Express in the backend, bootstrap in the frontend, and MongoDB as the database. Solved User Authentication issues using Passport.js

## Arthur - The Gladiator

[Link to Code](#)

- A game where a knight saves the princesses going through various obstacles
- Built the third level of the game using Quick Sort and Merge Sort Algorithms in C++ with SFML as Graphics Library

## PUBLICATION

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Paudel, Prabin, GC Ranju, Rahul Shah, and Supriya Khadka (2022). “Decentralized Book Publishing Platform using Blockchain and IPFS: An NFT-based Solution to Royalty Theft”. In: *International Conference on Engineering & Technology*. Vol. 2022.

## TECHNICAL SKILLS

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- **Python** including libraries useful for machine learning like **Numpy**, **Pandas**, **Scikit-Learn**, **Pytorch**
- Front end programming using **JavaScript** and its frameworks like **React**
- Server side coding using **Node.js** frameworks like **Express** and Python frameworks like **Django**
- Experience with various SQL databases like **PostgreSQL** and **mySQL** and NoSQL databases like **MongoDB** and **Firebase**
- Version control systems like **Git**
- Basic knowledge **Blender** for 3D modelling and **After Effects** for motion graphics.

## VOLUNTEER INVOLVEMENTS

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|---|-----------------------|-------------------------|
| <b>Women Leaders in Technology</b>        | Technical Facilitator | (Sept 2021 - Present)   |
| <b>GitHub Field Day Nepal</b>             | Planning Coordinator  | (April 2022 - Oct 2022) |
| <b>Hult Prize at IOE, Pulchowk Campus</b> | Event Manager         | (Sept 2021 - Jul 2022)  |
| <b>Pulchowk Girls</b>                     | Technical Manager     | (Sept 2020 - Jun 2022)  |
| <b>Nepal Online School</b>                | Contributor           | (Jun 2020 - Sept 2020)  |
| <b>The Zerone 2020</b>                    | Associate Editor      | (Nov 2019 - Apr 2020)   |

## REFERENCES

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Will be provided if necessary