

# Srija Uprety

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## EDUCATION

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### Trinity International College

Bachelor of Science (Computer Science and Information Technology)

Kathmandu, Nepal

2018-2023

- Aggregate Percentage: 80% (Ranked 1<sup>st</sup> in fifth and eighth semesters)

## AREAS OF INTEREST

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- Artificial Intelligence (AI) and Machine Learning (ML) for Social Impact.
- Object detection and recognition.

## EXPERIENCE

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### Bottle Technology

Machine Learning Engineer Intern

Lalitpur, Nepal

12/2022-05/2023

- Used State-of-the-art end-to-end object detection framework for on-traffic video data to detect lane violations and incoming-outgoing vehicles.
- Detected license plate characters using a Horizontal Projection Profile.
- Deployed applications on Docker.

### Fusemachines AI Fellowship

Microdegree

Kathmandu, Nepal

10/2021-12/2022

- Selected among 100 participants from a pool of thousands for a year-long AI fellowship program.
- Covered ML topics like linear/logistic regression, decision trees, SVM, clustering, PCA, etc.
- Hands-on experiences working with RNNs and CNNs.
- Worked with TensorFlow and PyTorch frameworks to build and train deep learning models.
- Graduated from the fellowship program with an honors degree.

## RESEARCH

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### Solar Energy Forecasting

Institute of Engineering, Pulchowk Campus, Tribhuvan University

06/2023

Kathmandu, Nepal

- This project contributed to the understanding and application of solar energy forecasting. The findings have the potential to inform decision-making processes related to solar energy utilization, particularly in regions like Nepal, where harnessing solar energy effectively can play a significant role in meeting the growing energy demands sustainably. Three stand-alone models ARIMA, ANN, and LSTM, and two hybrid models ARIMA-ANN and ARIMA-LSTM were used for daily global solar radiation forecasting.
- **Publication Status:** Manuscript submitted to the “International Journal of Sustainable Energy”.

## PROJECTS

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### **Growing Neural Cellular Automata**

Tools used: Python, Tensorflow, Gradio

- A system that enables the generation of intricate structures in three dimensions, as well as simulating the development of multicellular structures starting from a single cell. The project highlights two significant contributions, namely, an expansion of Neural Cellular Automata to 3D voxels and the development of a cellular automation technique for producing voxel structures with different levels of complexity.
- [GitHub Code](#) and [Project Report](#).

### **Stock Price Prediction with ARIMA and LSTM Models**

Tools used: Python, Keras, Sklearn, TensorFlow

- The major objective of this project was to model time series stock market data using deep learning models. Time series analysis models were used to predict the stock values with longitudinal data and different hyperparameter optimization schemes.
- [GitHub Code](#).

### **Picture to Paragraph**

Tools used: Python, Tesseract, Django

- The objective of this project was to develop tools for images to editable text conversion. After extracting the images, thresholding techniques and image inversion were performed boosted the accuracy of the Optical Character Recognition tool. Django as the backend framework was integrated for the image-to-text conversion tool. By combining these technologies, a user-friendly solution was generated for effortlessly transcribing information from images into editable text format.
- [GitHub Code](#).

### **Analysis customer reviews in Amazon gaming keyboard**

Tools used: Python, Pandas, BeautifulSoup, NumPy, Matplotlib, Scikit-Learn

- The main purpose of this project was to find popular keyboards on Amazon by analyzing the customers' reviews through their comments and star ratings. By scraping the star ratings and customer reviews from the Amazon product site, we analyzed them using the tools of Natural Language Processing.
- [GitHub Code](#).

## ACHIEVEMENTS

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### **Trinity International College's Idea Hunt**

07/2023

1st Position - Team "Khutruke"

- Secured 1st place in Trinity International College's Idea Hunt competition, competing as part of the team 'Khutruke.' Our idea focused on empowering the youth of Nepal by providing them with essential financial literacy skills. Our idea was recognized for its potential and impact by the esteemed panel of judges, Dr. Rajib Subba and Dr. Bhoj Raj Ghimire.

## **Hamrobazar Student Partnership Program**

2021

### Student Ambassador

- Organized events and workshops aimed at assisting beginners in showcasing their products or services.
- Conducted black-box testing of the newly developed Hamrobazar website.
- Hosted Git sessions to educate individuals on version control and collaborative software development.