

# Niranjana Shah



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## Summary

As a dedicated Master's candidate in Data Science at the University of Canberra, I'm keen to leverage my in-depth knowledge of machine learning, deep learning, and natural language processing in a challenging role. I possess strong problem-solving skills and have the ability to thrive in both collaborative and autonomous environments. My fast learning abilities and resilience in high-pressure situations, coupled with a strong commitment to excellence, position me well for a demanding machine learning and data science role.

## Education

2017-2021

### BACHELOR OF COMPUTER ENGINEERING

Tribhuvan University  
Kathmandu, Nepal

2022-Current

### MASTER OF DATA SCIENCE

University of Canberra  
Canberra, Australia

## Languages

- Nepali (Native)
- Hindi (Proficient)
- English (Proficient)

## Experience

Dec 2021 - Aug 2022

Citrana Creatives, Nepal

### JR. SOFTWARE ENGINEER

Involved in the creation of database, software requirement specification, data flow diagram, etc. required for projects. Developed backend for management systems, managed the database, and involved in the creation of frontend as well using React.js and Material UI

Nov 2020 - Sep 2021

Digital Office Technology, Nepal

### BACKEND DEVELOPER

Developed database designs, implemented the database in SQL, PostgreSQL, and NoSQL. Developed backend of School management system and other similar management systems using Laravel

## Paper Published

### "FILE SECURITY SYSTEM USING HYBRID CRYPTOGRAPHY AND FACE RECOGNITION"

Presented in 2nd International Conference on Mobile Computing and Sustainable Informatics (ICMCSI 2021)

[https://link.springer.com/chapter/10.1007/978-981-16-1866-6\\_38](https://link.springer.com/chapter/10.1007/978-981-16-1866-6_38)

## Skills

- HTML, CSS, JavaScript
- React.js, Django, Node.js, FastAPI, SQL
- Git, Github
- Software and Web Development
- Machine Learning, NLP
- Exploratory Data Analysis, Data Cleaning,, Data Visualization
- Tensorflow, PyTorch,, Scikit-learn

# Projects

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## Sentiment Analysis Using Deep Learning

- Used Sentiment140 dataset to create a deep learning model for the purpose of prediction of sentiment of that text, either positive or negative.
- Used pandas to load and clean the data
- Used gensim to create a word2vec model for converting a sentence to embeddings understandable by the deep learning model.
- Used LSTM from tensorflow to develop the deep learning model
- The models were trained on jupyter notebooks.
  - Link: <https://github.com/niranjankblank/TweetSentimentAnalysisUsingDeepLearning>
- Created a backend server using fastAPI to deploy the deep learning model
  - Link: <https://github.com/niranjankblank/SentimentAnalysisBackend>
- Created frontend for classifying text and seeing the prediction of model using React.js
  - Link: <https://github.com/niranjankblank/SentimentAnalysisFrontend>
- Deployed the backend server on AWS EC2 instance, and deployed frontend at vercel
  - Link: <https://sentiment-analysis-frontend.vercel.app/>

## LA Crime Data Analysis

- Through analysis of LA Crime data aiming to uncover insights and trends that can inform law enforcement policies, community support strategies, and crime prevention initiatives
- Data Cleaning was done using tidyverse package in R.
- EDA was done using POSTGRESQL.
- Found out answer to question such as most common type of crime in each area, gender distribution of victims, trends in crime over the year.
- Visualizations were generated using seaborn, matplotlib in python.
- Link: <https://github.com/niranjankblank/LACrimeDataAnalysis>

## Plant Disease Vision

- Application to detect disease in plant using their leaf images, and provide possible solution to the detected disease.
- Used New Plant Disease Dataset on kaggle having 38 classes for training the model and testing
- Used PyTorch for training the model
- Used resnet50 pretrained model for transfer learning and achieved an accuracy of 97%
- Deployed the project on streamlit ( <https://niranjankblank-plantdiseasevision-streamlit-app-5w8lq5.streamlit.app/> )
- Github Link: <https://github.com/niranjankblank/PlantDiseaseVision>

## Airbnb Data Analysis

- Cleaned and prepared a large Airbnb dataset for analysis and modeling.
- Performed Exploratory Data analysis and identified key patterns and trends in the data through visualizations.
- Built a Random Forest Regression model to predict Airbnb listing prices.
- Used cross-validation and RMSE for rigorous evaluation of the model's predictive performance.
- Derived key insights, identified business opportunities, and presented findings through an interactive dashboard.
- Github Link: <https://github.com/niranjankblank/AirbnbDataAnalysis>