

# NISCHAL MANDAL

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## PROFILE

To leverage my expertise in data analysis, machine learning, and predictive modeling to drive data-driven decision-making and deliver actionable insights that contribute to organizational success. I am passionate about innovation and committed to excellence. I aim to collaborate with cross-functional teams to tackle complex challenges, optimize processes, and drive business growth through the strategic use of data science methodologies.

## SKILLS

- Machine and Deep Learning
- Statistical Analysis
- Big Data Processing
- Data Visualization
- Mathematics
- Programming (R, Python, C, C++, PHP, JavaScript, )
- Git
- NLP
- Web Development (Django)
- MySQL/SQLite/JSON
- Data Mining
- Time Management
- Electronics
- IoT
- PCB Design
- Antenna Design
- TensorFlow
- AWS
- PowerBI
- Spatial Data Analysis
- Cloud Computing

## EDUCATION

- **MSc Data Science (Distinction)** 2023-2024  
University of East London London, UK  
  
Modules: Quantitative Data Analysis, Advanced Decision: Predictive Analytic and Machine learning, Spatial Data Analysis, Data Ecology
- **B.E Electronics and Communication (First)** 2013-2018  
Tribhuvan University Dharan, Sunsari, Nepal  
  
Modules: C, C++, Microprocessor, Mathematics, Statistics, Electronics and circuit, Digital Signal processing, Wireless communication, Telecommunication, Filter Design, Embedded system, Communication System, Antenna and Propagation, Control System, Power System, Satellite communication

## WORK EXPERIENCE

- **Lecturer** 2019-2020  
Itahari International College( London Metropolitan University Affiliated) Sunsari, Nepal
  - Design and develop teaching materials for cloud computing and IoT
  - Develop practical labs for cloud computing on AWS
  - Methodically planned and executed lesson plans
- **Full stack developer (Django)** 2020-2022  
Meowork IT Solution Kathmandu, Nepal
  - Assisted in requirements analysis, High-Level Design, Low-Level Design, and complex code development for 20+ applications
  - Oversaw the development and maintenance of new products, technical documentation, and workflows
  - Learned organization's overall strategies, business operations, and success drivers

## LANGUAGES

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- English
- Nepali (Native)
- Hindi (Fluent)

## FIND ME ONLINE

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[nischal1234](https://github.com/nischal1234)

## PROJECTS

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### ● Cross-Domain Sentiment Analysis: Unifying Text and Audio Modalities

MSc Dissertation

- Investigate existing approaches for cross-domain sentiment analysis, particularly in the context of text and audio modalities.
- Develop a deep learning model capable of jointly analyzing textual and audio features for sentiment classification.
- Evaluate the model's performance on the IEMOCAP dataset, considering different emotional states.
- Assess the transferability of the model to sentiment analysis tasks in other cross-domain scenarios.
- Explore the interpretability of the model and identify key features contributing to sentiment predictions.

### ● Heart disease prediction and comparative study

MSc Coursework

- Visualize the Heart disease across the parameter
- Predict and analyse the data using Machine learning algorithm
- Random Forest, Naive Bayes, Support Vector Machine, Artificial Neural Network was used

### ● Movie recommendation system based on Netflix data

MSc

- Developed a recommendation system using collaborative filtering (Matrix Factorization, k-NN) and content-based filtering to predict user preferences.
- Processed and cleaned large-scale Netflix datasets, implemented data preprocessing techniques, and handled missing values.
- Evaluated model performance with metrics like RMSE and MAE, achieving a [X]% reduction in RMSE compared to baseline models.

### ● Emotion recognition using bio-sensors

B.E Final Year Project

- Capable of monitoring the human emotions of mentally disabled person with their basic physiological data (Heartbeat, Temperature, Skin Conductance Level)
- All raw data are processed using K-Mean clustering algorithm in remote PC via Zigbee (Radio Frequency transmitter/receiver)
- All backend system run under Machine Learning

### ● IoT based Office Assistant robot

B.E

- An AI powered Raspberry Pi based talking robot with image processing and identification capability
- Natural Language Processing (NLP) based Speech Recognition system for voice chat

### ● IoT based Auto-Mobile controller

B.E

- Arm powered microcontroller with GSM, GPS and Bluetooth based controller
- Circuit simulation in Proteus and PCB design in Eagle in 4 layers