# Nalin **Kumar**

## Final Year Int. MSc | Aspiring ML Researcher

@ nalin.kumar@niser.ac.in

241, Kaveri Hostel, NISER Campus, NISER, Bhubaneswar, India

Personal Webpage



### **EDUCATION**

#### 2016 - 2021 National Institute of Science Education and Research

Integrated MSc

Major | Mathematics | Minor | Computer Science

#### 2014 - 2016 DAV Public School

Patna, India

All India Senior School Certificate Examination (2016) by CBSE



## **SKILLS**

Programming Language Python | R | C | HTML | LETEX

> **Tools & Softwares** MATLAB | Mathematica | MS Visual Studio Code | Netbeans | Streamlit | RStudio

APIs & Libraries Tensorflow | Keras | PyTorch | Numpy | Scikit-learn | Pandas | OpenCV

> OS Windows (XP, Vista, 7, 8, 10) | Linux (Ubuntu 18.0.4 LTS, Ubuntu 19.0.4 Mate, Ubuntu 20.04.1

LTS, CentOS)

**Machine Learning** Machine Learning Algorithms (Linear & Non-Linear Regression, Logistic Regression, KNN, De-

> cision Tree, Random Forest, K-mean clustering) | Deep Learning (RNN, LSTM, Attention, Transformer, CNN) | NLP(Word Embeddings, Sentiment Analysis, Language Translation) | Computer

Vision (Object Classification & Recognition, Object Detection)

Hypothesis Testing | Parametric Inference | Bayesian Inference **Statistics** 



## SCHOLARSHIPS

2016-21 INSPIRE Scholarship DST, India



## Work & Experience

## Oct 2020

#### Summer Internship | TATA STEEL

Aug 2020

Worked under Mr. Sanjoy Biswas, Head of Advanced Analytics, Kalinganagar and Mr. Saibal Nandi, Head Analytics Marketing and Sales.

- > Worked on detection and counting of steel reinforcement bars using deep learning.
- > Worked on Dealer names matching (Entity Matching) using Machine Learning, which increased their sales further.
- > Worked on Document Verification for FAMD Exports, TATA Steels, using text analytics and its UI development (using Streamlit). The project is identified under Shikhar Initiative.

#### Even Sem 2020

#### Semester Project | NISER

Semester Project under Dr. Subhankar Mishra in Computer vision.

- > Emotion detection of Tom & Jerry.
- > COVID-19 Face-mask Detection.
- > Worked on survey paper in existing face detection algorithms.

### Dec 2020

## Winter Internship | JNU

New Delhi, India

2 weeks winter internship under Dr. Narinder Singh Sahni on Gaussian process.

#### Odd Sem 2019

#### Semester Project | NISER

Bhubaneswar, India

Semester Project under Dr. Subhankar Mishra on Deep Learning.

- > Worked on the paper on novel architecture QUARC, Quaternion multimodal fusion for hate speech
- > IMDB Movie review classification using Deep Learning.
- > Digit Recognition using Deep Learning.

## May 2019

## Summer Internship JNU

New Delhi, India

Jul 2019

Summer internship under Dr. Narinder Singh Sahni on Regression Analysis.

#### Jun 2018

## Summer Internship IIT HYDERABAD

Summer internship under Dr. Narasimha on Introduction to Cryptography.

## Jul 2017

## Summer Internship | HRI

Allahabad, India

May 2017

Summer internship under Prof. Kalyan Chakraborty on Group Theory.

# ACTIVITIES

- > Currently working on English Translation of Atharva Veda (written in Vedic Sanskrit).
- > Currently working on a survey paper for face detection algorithms.
- > Worked on a research paper on using quaternion algebra in multi-modal fusion model for hate speech classification (QUARC).
- > Presented the paper "Exploring Deep Multimodal Fusion of Text and Photo for Hate Speech Classification" by Yang et al. at NISER. Bhubaneswar.
- > Gave a talk on 'Some results on q-series and polynomials and series of Bloch-Polya Type' at ANTS talk series, HRI, Allahabad.
- > Part of organising committee of Mathematics dept. for Open Day event (2019) held at NISER, Bhubaneswar.
- Presented Tower of Hanoi for high school students in Open Day event (2018) held at NISER, Bhubaneswar.
- > Volunteered for Open Day event (2017) at NISER, Bhubaneswar.
- > Designed a game named "Pet Parasite War" explaining biological concept for BIOLUDO held at NISER, Bhubaneswar.
- > Analysed the winning strategy for the game "dots and boxes".
- > Analysed the revenue receipts of Chattisgarh for years 2005-2016 as economics project work

## CLUBS & LABS

## Dr. Subhankar Mishra's Lab (SMLAB)

Member

#### **Mathematics Club**

Member

## LANGUAGE

- > English
- > Hindi
- > Magadhi

## ♣ Hobbies & Games

- > DOTA 2
- > Valorant
- > Table Tennis
- > Sketching