Nalin KUMAR
Final Year Int. MSc | Aspiring ML Researcher

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Personal Webpage

🎓 EDUCATION

2016 - 2021	National Institute of Science Education and Research|	Bhubaneswar, India
	Integrated MSc	
	[Major	Mathematics] [Minor	Computer Science]	

2014 - 2016	DAV Public School|	Patna, India
	All India Senior School Certificate Examination(2016) by CBSE	
	[92.3%]	

☰ SKILLS

Programming Language	Python | R | C | HTML | LaTeX
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, Decision 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)
Statistics	Hypothesis Testing | Parametric Inference | Bayesian Inference

★ SCHOLARSHIPS

2016-21	INSPIRE Scholarship| DST, India

📑 PUBLICATION(S)

2021	QUARC: Quaternion Multi-Modal Fusion Architecture For Hate Speech Classification [arXiv]
	Deepak Kumar*, Nalin Kumar*, Subhankar Mishra
	accepted in IWDS 2021: The 4th International Workshop on Dialog Systems
	[*equal contribution]

💼 WORK & EXPERIENCE

Oct 2020 Aug 2020	Data Science Intern | TATA STEEL	India
	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) which is further deployed on GCP so that the app is accessible to the users remotely in COVID times. The project is identified under Shikhar Initiative and is estimated to save approx. INR 1 Cr.

Even Sem 2020	**Semester Project| NISER**	Bhubaneswar, India

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 Research Intern | 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 multi-modal fusion for hate speech classification.
> IMDB Movie review classification using Deep Learning.
> Digit Recognition using Deep Learning.

May 2019 Jul 2019	**Summer Research Intern| JNU**	New Delhi, India

Summer research internship under Dr. Narinder Singh Sahni on Regression Analysis.
> Parametric Regression models
> Explored different simpler linear and non-linear parametric models arising from the five-point non-linear model used by the vendors to fit the concentration-absorbance curve of HbA1c(used in measurement of average sugar levels over a period of 3 months).

Jun 2018	**Summer Research Intern| IIT Hyderabad**	India

Summer internship under Dr. Narasimha on Introduction to Cryptography.

Jul 2017 May 2017	**Summer Research Intern| Harish Chandra Research Institute (HRI)**	Allahabad, India

Summer internship under Prof. Kalyan Chakraborty on Group Theory.

⌨ Workshops & Programmes

2020	**SciPy India 2020| Online**	

Conducted a 2 hour workshop with one of my batch-mates Deepak Kumar on "Object counting in an image via Object Detection and Marking"

2017	**SPIM| Harish Chandra Research Institute (HRI)**	Allahabad, India

Audited lectures of SPIM, 2017 held at HRI, Allahabad

2017	**Mathematica| NISER**	Bhubaneswar, India

Attended two days workshop on Mathematica held at NISER, Bhubaneswar.

⚙ Activities

> Currently working on English Translation of Atharva Veda (written in Vedic Sanskrit).
> Currently working on a survey paper for face detection algorithms.
> Other ML projects can be found on project section of my LinkedIn profile.
> 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