Parnapalli Sarath Kumar

Third Year Undergraduate - Statistics and Data Science

✉ psarath22@iitk.ac.in | G sarathkumar7182@gmail.com
 psarath22 | in Sarath Kumar | ☎ +91-9014683567

ACADEMIC QUALIFICATIONS

Year	Degree/Certificate	Institute	CPI/%
2022 - 2026	B.S SDS	Indian Institute of Technology, Kanpur	**9.21**/10.0
2022	Andhra Pradesh Board (XII)	Sri Chaitanya Junior College, Vijayawada	98.3%
2020	Andhra Pradesh Board(X)	A P R School of Excellence, Kodigenahalli	98%

SCHOLASTIC ACHIEVEMENTS

- Conferred with the **Academic Excellence Award(twice)** by IIT Kanpur for outstanding academic performance *2022-Present*
- Achieved **A* grades** in **Data Structures and Algorithms, Introduction to Machine Learning, Time Series Analysis, Fundamentals of Computing - I, Linear Algebra, and Engineering Graphics** *2022-Present*
- Secured **All India Rank 1827** in **JEE Mains 2022**, conducted by NTA among 1 million potential applicants *2022*
- Secured **All India Rank 4337** in **JEE Advanced 2022**, standing out among 1.6 lakh shortlisted candidates nationwide *2022*
- Secured **Rank 198** in **TS Engineering, Agriculture & Medical Common Entrance Test** among 170K applicants *2022*
- Secured **Rank 247** in **AP Engineering, Agriculture & Pharmacy Common Entrance Test** among 200K applicants *2022*

COMPETITIVE PROGRAMMING

- Competent in programming with maximum ratings: **1683** (expert) on Codeforces (**SKumar**)
- Secured a commendable global ranks of **120** in *Codeforces Round 970* and **203** in *Codeforces Round 950*

KEY PROJECTS

Decoding Boat Lifestyle | *Course Project, MTH208, Prof. Dootika Vats, MTH Dept.* ⏻ *(Aug'23- Nov'23)*

- Executed a Data Science project on **boat lifestyle** involving advanced **data cleaning and web scraping** in R and Python
- Developed an **interactive Shiny app** using consumer electronics data to enhance consumer decision-making efficiency
- Analyzed extensive consumer electronics data to uncover key trends, strategic pricing and marketing tactics at Boat Lifestyle
- Demonstrated expertise in data analysis and visualization, supporting well-informed decision-making processes

Mini Project - I | *Course Project, CS771, Prof. Piyush Rai, CSE Dept.* ⏻ *(Aug'24 - Nov'24)*

- Developed **binary classification models** for three distinct datasets: **emoticons as features, deep features, text sequences**
- Explored **various models** and **feature extraction techniques**, optimizing performance by varying **training dataset size**
- Achieved **98.57% accuracy** using **Deep Neural Network** on Emoticons, **98.77% accuracy** using **Logistic Regression with PCA** on Deep Features, and **92.02% accuracy** using **DNN with Two-Char One-Hot encoding** on Text Sequence, **98.77% accuracy** using **Logistic Regression with PCA** on Combined dataset *with a constraint of 10,000 parameters*

Mini Project - II | *Course Project, CS771, Prof. Piyush Rai, CSE Dept.* ⏻ *(Aug'24 - Nov'24)*

- Developed an incremental learning framework using **20 CIFAR-10-derived datasets** with **uniform(Task-I) and non-uniform(Task-II) input distributions**, effectively addressing continual learning challenges and reducing catastrophic forgetting
- Extracted features using **ResNet-152 model**, enhancing representation and accuracy across varying dataset distributions
- Employed the Learn with Prototypes (**LwP**) classifier with Euclidean distance and pseudo-labeling to train models iteratively
- Achieved T-1 accuracies of **88-91%** and T-2 accuracies of **72-86%**, demonstrating effective adaptation across distribution shifts

Raga Detector | *Self Project.* | *View on Kaggle* *(Feb'24 - Mar'24)*

- Engineered a neural network model for detecting Indian music ragas by leveraging deep learning techniques in Python
- Extracted **Mel-Frequency Cepstral Coefficients** and other essential features using librosa for precise data preprocessing
- Achieved a notable test accuracy of **94.1%** through meticulous model training and evaluation using TensorFlow and Keras

TECHNICAL SKILLS

Programming Languages	Software and Libraries	Utilities and Tools	Miscellaneous
C, C++, Python, R	NumPy, Pandas, Beautiful Soup, GGplot2, Tidyverse, Dplyr, Rcpp	TensorFlow, SkLearn, Shiny, Profvis, GitHub, R Quarto	OOPS, Git, LaTeX, Colab, AutoCAD, Jupyter, RStudio

RELEVANT COURSES   ****Exceptional (A*) | *Excellent (A)**

Data Structures and Algorithms **	Time Series Analysis **	Introduction to Machine Learning **
Fundamentals of Computing - I **	Data Science Lab - I *	Linear Regression & Anova
Linear Algebra ** & Differential Equations*	Introduction to Electronics *	Introduction to Probability Theory
Statistical Computing	Theory of Statistics*	Elementary Stochastic Processes - I *

POSITIONS OF RESPONSIBILITY

Academic Mentor | *Counseling Service, IIT Kanpur* *(2023-24)*

- Spearheaded a team of 33 students in mentoring over 1200 peers through programming courses at IIT Kanpur
- Organized and delivered preparatory classes, offering proactive academic support to significantly elevate student performance

EXTRA-CURRICULAR ACTIVITIES

- Successfully completed a rigorous 10-day Naval Camp in August 2017, followed by an examination in 2018, leading to the prestigious attainment of an **A-grade NCC certificate**