Sampad Kumar Kar

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Education

- **Chennai Mathematical Institute** — Chennai, India
  B.Sc.(Hons.) - Mathematics and Computer Science; GPA: 8.76; transcript — *2019 - Present*
  Notable Coursework: *Calculus, Differential Equations, Probability Theory, Linear Algebra, Advanced Programming in Python, Programming Language Concepts, Theoretical Foundations of ML, Data Mining and ML, Probability and Statistics with R, Linear Programming and Combinatorial Optimisation*
- **Indian Institute of Technology, Madras** — Chennai, India
  B.Sc. - Data Science; GPA: 9.2; transcript — *2020 - Present*
  Notable Coursework: *Programming and Data Structure with Python, ML Foundations, ML Techniques, ML Practice, Business Data Management, Tools for Data Science*

Skills

- **Languages**: Python, R, Matlab C++, Java, Haskell
- **Frameworks**: NumPy, Pandas, Scikit, Tensorflow, NLTK, OpenCV, Matplotlib, Seaborn
- **Tools**: Git, PostgreSQL, LaTeX, Excel
- **Platforms**: Linux, Windows, Mac
- **Soft Skills**: Leadership, Event Management, Writing, Public Speaking, Time Management

Experience

- **Cheenta** — Remote
  Mathematics Instructor (part-time) — *Oct 2019 - present*
  - **Mathematics Olympiad Instructor**: Taught various courses for Indian National Mathematics Olympiads on various topics like Geometry, Number Theory, Algebra etc.

Projects

- **ANN - Comparison of Regularization Techniques in DNNs**: (Reading Project): Comparative research on several popular regularization techniques using real world weather dataset. Also test this on their own test set, to validate the conclusions based on training and validation errors, to come up with the best regularization paradigm. (January '22)
- **Clustering - Fast Text based Clustering**: Developed 4 clustering techniques, two of them based on built-in sklearn 'KMeans', and two new techniques coded from scratch to cluster bigger datasets, all using 'Jaccard Similarity' as metric. Optimised these algorithms to be able to cluster bigger datasets for further semi-supervised learnings. *GitHub* (April '22)
- **Perceptrons - Image Classification with Perceptrons**: Implemented Perceptron Classifier to classify 'MNIST 784' dataset. Tweaked the thresholds of decision functions to improve 'Precision'. Analysed the behaviour of weights to justify the false positive cases. *GitHub* (February '22)

Honors and Awards

- Shriram Scholarship - 2019 - present
- NTSE Scholarship - 2017 - 2019
- INMO Merit Awardee - 2017
- KVPY Qualifier - 2018
- NSEP, NSEA, RMO Qualifier - 2017-18