

Meenal Jhajharia

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EDUCATION

UNIVERSITY OF DELHI

CLUSTER INNOVATION CENTRE

BTECH IN IT & MATH

Junior Year

GPA: 8.2 / 10.0

COURSEWORK

Statistics and Probability

Graph Theory

Linear Algebra

Design and Analysis of Algorithms

Data Structure and design

Academic writing and Communication

Economic Behaviour

Appreciating Literary Works

Complex Analysis and Algebra

Artificial Intelligence

Statistical Learning

Bayesian Machine Learning

RESEARCH INTERESTS

Natural language processing

Graph Theory

Bayesian Statistics

Algorithmic Fairness

Computational Geometry

SKILLS

Python ML Libraries

Probabilistic Programming

Python, R, Shell

LATEX, C/C++, Unix

Java, MySQL, MATLAB

LINKS

Github: [mjhajharia](#)

LinkedIn: [meenaljhajharia](#)

Web: [mjhajharia.com](#)

Recent Talk - PyData

EXPERIENCE

TIME SERIES MODELING

GOOGLE SUMMER OF CODE'21 | PyMC - CORE CONTRIBUTOR

Worked on extending Bayesian Time Series Models of **PyMC** in the following ways: Implementing a new class of models - SARIMAX, Kalman filter and state space implementation. Alongside, I'm working on Pedagogical/tutorial notebooks exploring the econometric applications of these models. | [Project](#) |

INDIAN STATISTICAL INSTITUTE

RESEARCH INTERNSHIP | SUMMER 2020

Worked with **Prof. Ujjwal Maulik** and **Prof. Sanghamitra Bandyopadhyay** (Director, ISI Kolkata) on Non Linear Dimensionality Reduction- Algorithms based on canonical feature extraction techniques such as PCA and LDA applied through spectral graph Embedding.

PROJECTS

UNSUPERVISED KEYWORD EXTRACTION

NATURAL LANGUAGE PROCESSING | JANUARY - MARCH, 2021

Developed an Unsupervised, graph-based algorithm for Keyphrase Extraction that exploits syntactic relations using dependency parsing, augmented with local text attributes. We reconstruct dependency trees in a Hyperbolic metric space to locate keywords, further ranked by statistical NLP features. | [PDF](#) |

REFERENCE MANAGEMENT TOOL

SEMESTER LONG PROJECT | SEPTEMBER - NOVEMBER, 2020

A Viola Dashboard with LDA based topic modeling for editing, organizing and viewing research papers. MySQL and Python backend for automatic retrieval of metadata from PDFs scraping through Google Scholar and CrossRef.

DEPRECAT

PYTHON PACKAGE | JANUARY, 2022

Improved fork of a an existing project to add support for deprecating keyword arguments using python decorators for maintenance of large open source packages, it is currently used in PyMC documentation. | [Package Docs](#) |

SUDOKUS AND GRAPH THEORY

SEMESTER LONG PROJECT | JANUARY - FEBRUARY , 2020

Interpreting a Sudoku as an NP Graph coloring problem, **visualization using networkx**, and working through the Chromatic Polynomial to analyse the number of puzzles or solutions possibly generated with varying number of clues.

ACHIEVEMENTS

Received **Honorable Mention** at 2020 COMAP's Mathematical Contest in Modeling (MCM). Only team from India to get Honorable Mention.

Secured **Air 2 (top 0.01%)** in Delhi University Entrance Test 2019.