Nandini Agrawal

Columbia University, City of New York
+16464314421 | na2928@columbia.edu | https://agrawalnandini.github.io/
https://www.linkedin.com/in/agrawal-nandini/

EDUCATION

Columbia University — New York, NY
Master of Science in Computer Science — Dec 2022

Ashoka University — Haryana,IN
Postgraduate Diploma in Advanced Studies,Bachelor of Science — May 2021
Major: Computer Science; GPA: 3.96/4.0 (Diploma) and 3.82/4.0 (UG).
Honors/Awards: Summa Cum Laude, Dean's List, Gold Medal for Academics.

WORK EXPERIENCE

Ashoka University — Haryana,IN
Teaching Assistant — Aug 2019 - May 2021

- Mentored students for four courses : Computer Organisation and Systems, Introduction to Computer Programming, Computer networks and Blockchain & Cryptocurrencies in 4 different college semesters, and graded assignments.

Koc University — Istanbul,TR (Online)
International Summer Research Intern — Jul 2020 - Sep 2020

- Built Blocksim-Net, a simple, efficient, high performance, network-based blockchain simulator, with three team members (Tools : Python, AWS and Socket Programming). Produced a paper and presented it at the Basarim'20 conference.

Ashoka University — Haryana,IN (Online)
Research and Software Development Intern — Jun 2020 - Aug 2020

- Developed Covidbloc, a system involving an android(Flutter) mobile application and a web portal(Vue) with blockchain powered contact tracing (NodeJS server and Hyperledger Fabric) to track and prevent the spread of COVID-19.

Kings College London and Trivedi Centre for Political Data — London,UK (Online)
Intern — May 2020 - Aug 2020

- Created an automated scraping system using Selenium to extract and clean useful documents released by the Indian government to tackle the Covid-19 pandemic.
- Executed a document classifier using NLP techniques to classify these documents topic wise.

SKILLS

- Technical: Python, NodeJS, Javascript, Java,Flutter, Tenserflow, Keras, Pysyft, Hyperledger Fabric, AWS, Docker, Selenium, MongoDB, NoSQL,HTML/CSS, Github,Latex, Jupyter Notebook,Postman.

PROJECTS

Synthetic Data Generation, Machine Learning — Jan 2021 - May 2021

- Generated synthetic data with the help of conditional Generative Adversarial Networks and Monte Carlo Markov Chain : Gibbs Sampler to model sexual harassment cases in India (Tools : Python, ML libraries - Keras, Tenserflow).

Data Decision Support, Data Mining and Warehousing — Apr 2021

- Scrapped data about top hotels from Booking.com by programming a python selenium based scrapper.
- Cleaned data and performed analytics on it such as polarity score calculation, clustering of hotels, etc.
- Visualised top 10 hotels based on average polarity score via Mapbox.

Automatic Essay Grader, Machine Learning and NLP — Oct 2020 - Dec 2020

- Created a Bidirectional LSTM based machine learning model with embeddings for grading standardised test essays using the Hewlett Foundation dataset (Tools : Python, NLTK, ML libraries - Keras, Tenserflow).

Secure ML, Privacy Preserving Machine Learning — Aug 2020 - Dec 2020

- Implemented a linear regression model in a secure 2 party environment as per the protocols mentioned in the Secure ML paper.
- Programmed a Federated learning model (from scratch) on the MNIST fashion data set to compare with other models .
- Accomplished with these tools : Python, Socket Programming, ML library - Pysyft.

Conversational Chatbot and Image Coloriser, Machine Learning — May 2020

- Implemented a conversational chatbot using the Cornell movie dataset and a seq2seq LSTM model with attention.
- Built an Image Coloriser designed to convert black and white images to coloured images using a Convolutional Neural Network model and a subset of the LFW dataset.
- Executed using these tools: Python, Machine learning libraries - Keras, Tenserflow.

Hyperfunds, Blockchain Development — Mar 2020 - May 2020

- Developed a distributed application to help faculty at Ashoka University reliably spend research funds with approval from the right administrators (Tools : Hyperledger Fabric, Python, NodeJS, REST, Docker, Amazon Web Services).