

Sukanya Saha

MS student at CU Boulder • Ex Machine Learning Engineer at HSBC

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Summary

Software engineer with experience in building end-to-end highly scalable and robust applications with distributed architecture and highly skilled in statistical models, deep learning, natural language processing, and computer vision.

Grace Hopper Celebration of Women in Computing attendee.

Education

University of Colorado Boulder, US - MS in Computer Science: Jan 2021 - Dec 2022

Research work:

- Developing human-inspired robot learning model using **generative models and reinforcement learning**

Projects:

- E-Commerce application with distributed backend services using Python, **gRPC, RAFT Protocol, Atomic broadcast and Google Cloud Platform**
- Enhancing Privacy in **Federated machine learning using differential privacy**

West Bengal University of Technology, India - B.Tech in Electronics & Instrumentation Engineering: Aug 2012 - Jul 2016

Work experience

Google, USA - Computer Science Research Mentorship Program Apprentice: Sep 2021 - Present

- Receiving mentorship from a Googler to pursue computing research on **bias aware and privacy-preserving machine learning**

University of Colorado Boulder, USA - Graduate Teaching Assistant, Principles of Programming Languages: Jan 2021 - Present

- Deliver recitation on functional programming, lambda functions etc. to a class of 300 undergrad students, debug code and brainstorm project ideas for class

HSBC, India — ML Engineer: Mar 2019 - Dec 2020

- Designed and developed a **digital customer segmentation** model using **unsupervised machine learning**
- Built a model to **predict credit card utilization** to generate offers
- Developed a web application using **topic modeling** with customers' preferences and sentiments to compare **mobile banking apps**
- Acheived **91% accuracy** on customer return to purchase ML model with efficient data collection
- Developed a web-based **FAQs Chabot** using Natural Language Processing
- Gained **81% accuracy** on customer attrition ML model with high dimensional data to decrease customer churn

Skillset (Proficient)

Programming languages

Python

ML libraries

numpy **scikit-learn**

matplotlib **pandas**

plotly **PyTorch**

TensorFlow **Keras**

Computer Vision libraries

OpenCV

NLP libraries

spaCy **Gensim**

NLTK

Web automation tools

Beautiful Soup

Selenium

Web frameworks

Flask

Databases

MySQL **BigQuery**

MongoDB

MS SQL Server

Tools

Git **Jupyter notebook**

Skillset (Intermediate)

Programming languages

Golang **Scala** **C**

Web technologies

gRPC **REST**

HTML **CSS**

Tools

Webot **DialogFlow**

Work experience

Cognizant, India — Data Scientist: Aug 2016 - Feb 2019

- Increased Recall by 5% on customer re-purchase **predictive model** for **Marketing Analytics** team
- Built **Resume Screening** application using **OCR** to decrease average screening time from 1 week to 2 days
- Streamlined and simplified high volume customers' onboard validation process using **Text Summarization**
- Developed **CCTV surveillance in ATMs** using convolution neural network and activity recognition to reduce fraud
- Built Server Failure Prediction model on a network using anomaly detection to enhance fault tolerance

Awards and Extra-Curricular

- Awarded “**Above and Beyond**” in Cognizant
- Ranked **65th in Indian Engineering Olympiad**
- Academic excellence award, Future Institute of Engineering and Management
- Conducted seminar on applications machine learning in association with the Computer Society of India
- Conducted training sessions for differently-abled children in the **Indian Institute of Mother and Child** NGO
- Influenced young children for STEM education with **Adore India** NGO

Certifications

- Coursera **Machine Learning** by Stanford University
- Deep Learning Specialization by deeplearning.ai
- Generative Adversarial Networks Specialization by deeplearning.ai
- Reinforcement Learning Specialization by University of Alberta & Alberta Machine Intelligence Institute