

# 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:

- Personalised stylist bot using **natural language processing, generative models and computer vision**

Projects:

- E-Commerce application with distributed backend services using **Python, Flask, JavaScript, 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**
- Achieved **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**

**JavaScript** **React**

Web technologies

**gRPC** **REST**

**HTML** **CSS**

Tools

**Webot** **DialogFlow**



## Work experience

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**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

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- 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

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- 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