

Sukanya Saha

MS student at CU Boulder | Ex Machine Learning Engineer at HSBC | Research Apprentice at Google

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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

Skills

Programming languages: Python, Golang, Javascript, Scala

ML Stack: Statistical Machine Learning, Deep Learning algorithms, Generative models, Reinforcement learning, Computer Vision, Robotics

ML libraries / frameworks: Tensorflow, openCV, Pytorch, Matplotlib, scikit-learn, ROS

Tools: Git, Webots, Jupyter notebooks

Web Technologies: REST, gRPC, HTML, CSS, MySQL

Education

University of Colorado Boulder, Boulder— MS in Computer Science: GPA 3.85

Jan, 2021 - expected in Dec, 2022

Coursework - Distributed Systems, Natural Language Processing, Computer Vision, Advanced Robotics

Research work:

Reinforcement Learning, Generative Adversarial Networks and Robotics. Currently working on human-inspired robot learning 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

Teaching assistant work:

Teach students Principles of Programming Languages to the class of 270 undergraduate students. Help students to **debug Scala and Python** codes and brainstorm project ideas

Experience

Google Computer Science Research Mentorship Program Scholar, USA —

Apprenticeship

September 2021 - Present

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

Experience

Teaching Assistant, University of Colorado at Boulder : Jan, 2021 - Current

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

Machine Learning Engineer, HSBC : 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

Data Scientist, Cognizant Technology Solutions : August, 2016 - Feb, 2019

- Increased **Recall by 5%** on customer repurchase **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