Avantika Ghosh

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Education and Training

University of California, Berkeley, CA | Dual Degree in Computer Science and Economics | 05/2023
Technical courses: Data Structures | Structure and Interpretation of Computer Programs | Discrete Mathematics and Probability | Designing Information Devices and Systems | Data Connector Course (Economic Models) | Foundations of Data Science | Language and Linguistics

Skills Java, Python, Javascript, Lisp, SQL, Git, React, Node.js, Scheme, C++, Apache Spark/Spark ecosystem, including Spark RDD, Spark SQL, Spark MLlib, Spark Streaming, HDFS, Sqoop, Flume, Spark GraphC, Kafka

Work Experience

Naval Postgraduate School (NPS), Monterey, CA
Research Intern **2020**
Worked on using the IBM and OracleBlockchain Platform to create a system that tracks shipment details during transportation and aircraft maintenance log integrity.
Result: Wrote an academic paper (Link: NPS Blockchain Paper)
Science and Engineering Intern **2018-2019**
Benchmarked the capacity of Machine Learning algorithms to process different transponder attributes of a military dataset of 10,000 aircrafts to identify anomalous behavior to detect potential terrorist/surveillance activity. Created models of the K-Means Clustering, Density-based Spatial Applications with Noise, and Linear Regression algorithms. Presented research findings at the Summer Research Symposium at CSU Monterey Bay, CA.
Result: Wrote an academic paper (Link: NPS Anomaly Detection Paper) for which I received I received a stipend from NPS and research grant from AI4ALL

AI4ALL, Stanford University, CA **2017**
High School AI Lab (HAIL) Research Volunteer
Helped graduate students at Stanford University in data testing on a research project to improve the accuracy and early detection of lung cancer. Created a model to reduce the number of False Positives (FPs) using black circular algorithm for feature extraction and genetic algorithm (GA) based clustering using the nodules on medical images like CT and MRI scans.
Researcher **2016**
Improved hygiene in hospitals using computer vision techniques by programming cameras to filter images of hands of hospital personnel between image channels to identify germs.

Activities, Honors, and Personal Projects (GitHub Portfolio)

Internal Vice President Committee, Engineering Student Council (UC Berkeley) **2020 - current**
Worked toward addressing equity and inclusion of all STEM majors at events hosted by the Engineering Student Council.

NCWIT Award for Aspirations in Computing (AiC)| San Francisco Bay Area Winner **2017**
Awarded for achievements in computing, proven leadership ability, and academic performance.

First Place in Hack for Social Impact Summit (Hosted by Blueprint) **2019**

Member, Women in Science and Engineering Program (UC Berkeley Chapter) **2019-2020**

Stock Market Trading Algorithm **2020**
Created a trading algorithm based on technical indicators to predict bullish markets in companies ranging from software technology to biotechnology, using the Think or Swim platform (by Ameritrade) to build graphs (Python).

Bear with Us - Lead Front End Developer **2020**
Led a team of front-end developers to create webpages for a virtual online platform that allows incoming Freshmen to better assimilate to the UC Berkeley clubs and campus culture by offering mentorship, club calendar options, and a personalized messenger board.