# Surbhi Dhiman

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Accomplished engineer driving data-backed solutions at Booz Allen Hamilton. Extensive experience developing software, predictive models, optimization tools, and ML applications for analyzing business metrics and supply chain operations. Proficient in Python, TensorFlow, and Scikit-learn for developing predictive models and ML applications. Strong quantitative background with BA degrees in Astrophysics and Applied Mathematics.

## EXPERIENCE

April 2023 - Present

**Booz Allen Hamilton.** ***Data Scientist***

- Contribute to the Advana team's development of a unified analytics platform for the Department of Defense - leveraging large scale ETL pipelines, data analysis methods, and machine learning models to drive data-driven decision making across the organization using Python and SQL.
- Forecasting: leading a small team to develop a data science product in Python that predicts future metric values and calculates the probability of these values reaching their dynamic target levels.
- Metrics: collecting and consolidating data across a wide range of sources to calculate and visualize high level business metrics.
- Reporting: took initiative to renovate an interactive tool that helps analyze the underlying large amounts of data feeding into the high level business metrics and demoed the tool to high level DoD program directors.

Mar 2020 - Feb 2023

**REMI AI.** ***AI Researcher & Software Engineer***

- Developed an optimization assistant that pulls clients' supply chain metrics and provides optimal replenishment recommendation settings with backtesting and projected scenarios using object oriented programming.
- Designed a network optimization engine to maximize clients' cash flow from vendors to customers.
- Created a supply chain health dashboard visualizing metrics that feed into clients' optimization solutions.
- Initiated and developed a module to create product-location level replenishment recommendations to minimize lost sales and holding costs and to predict future stock levels, purchase orders, and profit margins.
- Researched and implemented customizable replenishment recommendation methods.
- Collaborated with the backend team to plan and implement a rehaul of database schema design.

**REMI AI.** ***Junior Software Engineer***

- Spearheaded project using combinatorial optimization to create shipping container configurations with objectives to maximize profit and minimize container volume wasted.
- Designed, built, and tested REST API's for Remi AI's platform using Python, Flask, SQLAlchemy, PostgreSQL, Kubernetes.
- Met with clients to manage onboarding processes and ensure custom requests are included in solutions.
- Pulled client data from multiple sources to extract, transform, and load (ETL) the data into Remi AI databases.
- Implemented CI/CD devops workflows with Github Actions to support develop and production environments.

**REMI AI.** ***AI Researcher & Engineering Intern***

- Built a demand forecasting web application with Python and Django to host APIs for a Fortune 500 client.
- Created a product sale rate and profit margin clustering algorithm using Pandas and Scikit-learn packages.
- Teamed with backend engineers to implement functionality for Remi AI's platform and introduce user management systems.

Sep 2019 - Feb 2020

**UNIVERSITY OF CALIFORNIA, BERKELEY.** ***Web Developer***

- Constructed a web application to host interactive models for black hole microlensing events using Python, Django, Github, and mathematical modeling skills.

Sep 2016 - Jun 2017

**LAWRENCE BERKELEY NATIONAL LAB.** ***Undergraduate Researcher***

- Statistically measured the dimensions of large scale galaxy filaments and analyzed these results using Python as a cosmological probe under the supervision of the head scientist of the Cosmology Department.

## EDUCATION

Jun 2015 - May 2019

**UNIVERSITY OF CALIFORNIA, BERKELEY**

*B.A. Majors in Astrophysics & Applied Mathematics (Concentration in Quantum Mechanics)*

Nov 2021 - May 2022

**UNIVERSITY OF CHICAGO (Coursera Platform)**

*Certifications: Statistical Thinking for Machine Learning; Advanced Statistical Thinking for Machine Learning; Machine Learning: Introduction to Machine Learning*

## SKILLS

Python | Mathematics | Scientific Thinking | Experimental Design | Statistics & Probability | Linear Algebra | Calculus | Mathematical Modeling | Optimization | Data Analysis | Data Modeling | Artificial Intelligence | Machine Learning | TensorFlow | Scikit-learn | Keras | Pandas | Spark MLlib | Algorithms | Extract, Transform, Load (ETL) | Supply Chain Optimization | Quantitative Research | Product Development | Git | Databases | SQL | MongoDB | Application Programing Interface (API) | Google Operation Research OR-Tools | AWS Microservices | Docker | Kubernetes | Object-Oriented Programming | Elastic Search | RabbitMQ | Databricks | Spark | Time Series models | Risk Analysis | QlikSense | Data Visualization | Data Driven Decisions | Metric Calculations | Communication | Reasoning Skills | Creativity | Teamwork |