Sofia Dutta

Software Engineer

(443) 554-4170 | [sofia.dutta17@gmail.com](mailto:sofia.dutta17@gmail.com)

[linkedin.com/in/sofiadutta](https://linkedin.com/in/sofiadutta) | [sofiadutta.github.io](https://sofiadutta.github.io/)

Software Engineer with over a decade of experience working with large quantities of data. Worked on every aspect of the software development life cycle, from design & development of core functionality to production deployments in cloud environments. Seeking software engineering opportunities in the US.

SKILLS

Programming – Python, Java, SQL, PL/SQL

Data Science – Apache PySpark, Looker, LookML, PyTorch, Sci-kit Learn, Tensorflow, Hadoop

Data/Software Engineering – Apache Airflow, Databricks, Jupyter Notebook, Google Colab, Git

## Cloud – AWS S3, Amazon Elastic Compute Cloud, Google Cloud Platform, Google Compute Engine, Google Cloud Storage

Back-end – Google BigQuery Table, Oracle Databases, PostgreSQL, MySQL, MongoDB, JSON

Domain knowledge – Network Security, Big Data Analytics, Deep Learning, Machine Learning

WORK EXPERIENCE

Software Engineer @ Cisco Systems Inc., USA Feb 2023 – Present

* Building ML models that help identify applications for the Cisco Secure Firewall.
* Performing Big Data Analytics and Machine Learning to identify patterns in network traffic to improve network security for clients of the Cisco Secure Firewall product.
* Identifying patterns in encrypted traffic so that we can provide security while protecting customer privacy.

Technical Leader @ NewWave Telecom & Technologies, Inc., USA Jan 2021 – Jan 2023

* Designed the system architecture, database schema, and data workflow for the [Imersis](https://newwave.io/imersis-newwave-mathematica-state-data-quality) data quality analytics platform.
* Built the project's cloud infrastructure setup and processed hundreds of millions of healthcare records using Apache PySpark to compute data quality metrics.
* Created Looker dashboard visualizations with drill-down options that “explains” why the data quality came out to a certain value.
* Due to the lack of large quantities of data, re-designed the machine learning goal of the project into a data quality “Explainable AI” system.
* Built a data quality system that allows clients to understand how to improve their data quality over time.
* Using a four-fold workflow automation strategy saved tens of thousands of dollars in cloud costs for the project.

Data Science Intern @ NewWave Telecom & Technologies, Inc., USA May 2020 – Dec 2020

* Helped speed up the project's data processing pipeline 10-fold by moving to Google Cloud Platform (GCP).
* Managed DevOps on GCP, connecting cloud infrastructure to Big Data tables for delivering results to dashboards.

Software Engineer @ Tata Consultancy Services, India Nov 2006 – Feb 2018

* Led the design, development, and delivery of API interfaces using PL/SQL stored procedures for several projects of TCS.
* Carried out change-based regression impact analysis, created software functional specifications, and prepared test plans for several projects of TCS.
* Performed system integration, user acceptance, and performance testing and ensured client systems had high uptime even when carrying out data migration activities.
* Saved 80 million dollars in potential revenue lost to the client and was awarded for the said effort by clients.

EDUCATION

Udacity Nanodegree: Deep Learning Oct 2021

Master’s in Data Science from the UMBC, USA Jan 2019 – Dec 2020

Bachelor’s in Computer Science from WBUT, India Jun 2006 – Nov 2010