

Sofia Dutta

Software Engineer | Data Enthusiast

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EDUCATION

University of Maryland, Baltimore County (UMBC), Baltimore, MD

Master's in Data Science GPA: **4.0** 2019 – 2020 (*expected*)

Coursework: Practical Deep Learning, Machine Learning & Data Analysis, Big Data Processing, Data Management – SQL, NoSQL

West Bengal University of Technology, Kolkata, India

Bachelor's in Computer Science GPA: **3.5** 2006 – 2010

Coursework: Data Structures & Algorithms + Labs, Operating Systems + Labs, Artificial Intelligence + Labs, Advanced Computer Architecture

SKILLS

Programming	Python, Java, SQL, PL/SQL, T-SQL
Data Science tools	PyTorch, Sci-kit Learn, PySpark, Keras, Tensorflow, Hive, Hadoop, MLlib, LookML, Azure AI
Enterprise tools	Google Cloud Platform, Amazon Web Services S3, Oracle Applications
Back-end tools	Oracle Databases, PostgreSQL, Microsoft SQL Server, MongoDB, JSON
IDEs/Dev tools	Jupyter Notebook, Google Colab, PL/SQL Developer, Git

EXPERIENCE

NewWave Telecom & Technologies, Inc. | Data Scientist Intern

May 2020 – Present

Windsor Mill, MD

- o Built a system for computation of data quality analysis and exploration in a record time of a month.
- o Trained a machine learning model using 3000 rules for quality computation metrics.
- o Improved computation speed 10-fold by deploying analysis workflow in Google Cloud Platform (GCP) clusters and using Apache Spark for quality metrics computations.
- o Exported results to Looker for creating intuitive dashboards visualizations.
- o Performed data quality analysis on half a million healthcare records from Centers for Medicare & Medicaid.

Tata Consultancy Services | Software Engineer

Nov 2010 – Feb 2020

Kolkata, India

- o Led the design, development, and delivery management of seven projects for clients of TCS.
- o Created API interfaces using PL/SQL stored procedures for daily usage for clients of TCS.
- o Led meetings to capture requirements from DHL UK, Staples USA, Hyatt USA, Kaiser-Permanente USA.
- o Carried out change based regression analysis and documented software functional specifications.
- o Prepared test plans and executed system integration testing and user-acceptance testing.
- o Ensured client systems were up in four hours after migration activities saving millions of dollars in potential revenue lost.
- o Implemented scripts for data migration of a billion records while adhering to strict time SLA bounds.
- o Completed client data migration from legacy Oracle Apps (11i) to Oracle ERP Suite (R12).
- o From 2013 - 2018, managed continuous integration and continuous deployment in production environments.
- o Got certified in seven Oracle Apps competencies while working for client projects.

Honors

2017 TCS Gems for outstanding contributions to the organization in training new software engineers

2015 "*Most likely to slay a Dragon*" from DHL UK, for grand efforts in completing data migration on schedule

RESEARCH

Ebiquity Research Lab, UMBC | Graduate Student Researcher

Sep 2019 – May 2020

Baltimore, MD

- o Authored an [Ontology](#) for Smart Home Access Control by extending earlier research in Semantic Web.
- o Developed an [Android app](#) for handling context-sensitive access control in a Smart Home Environment.
- o Created [YouTube videos](#) for presentation to the National Institute of Standards and Technology.
- o Published a [paper](#) at the IEEE Big Data Security 2020 conference.

BEST DEEP LEARNING PROJECT (till date): [Image-to-Image Translation Using CycleGAN](#)

PUBLICATION

Sofia Dutta et. al., "Context Sensitive Access Control in Smart Home Environments", InProceedings, 6th IEEE International Conference on Big Data Security on Cloud (Big Data Security 2020), May 26, 2020, Baltimore, MD, USA.