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 | | | | | |
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| **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 | | | | | |
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| 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 | | | |
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| EXPERIENCE | | | | | |
| **NewWave Telecom & Technologies, Inc. | Data Scientist Intern**  Windsor Mill, MD | | | | | **May 2020 – Present** |
| * Built a system for computation of data quality analysis and exploration in a record time of a month. * Trained a machine learning model using 3000 rules for quality computation metrics. * Improved computation speed 10-fold by deploying analysis workflow in Google Cloud Platform (GCP) clusters and using Apache Spark for quality metrics computations. * Exported results to Looker for creating intuitive dashboards visualizations. * Performed data quality analysis on half a million healthcare records from Centers for Medicare & Medicaid. | | | | | |
| **Tata Consultancy Services | Software Engineer**  Kolkata, India | | | | | **Nov 2010 – Feb 2020** |
| * Led the design, development, and delivery management of seven projects for clients of TCS. * Created API interfaces using PL/SQL stored procedures for daily usage for clients of TCS. * Led meetings to capture requirements from DHL UK, Staples USA, Hyatt USA, Kaiser-Permanente USA. * Carried out change based regression analysis and documented software functional specifications. * Prepared test plans and executed system integration testing and user-acceptance testing. * Ensured client systems were up in four hours after migration activities saving millions of dollars in potential revenue lost. * Implemented scripts for data migration of a billion records while adhering to strict time SLA bounds. * Completed client data migration from legacy Oracle Apps (11i) to Oracle ERP Suite (R12). * From 2013 - 2018, managed continuous integration and continuous deployment in production environments. * Got certified in seven Oracle Apps competencies while working for client projects. | | | | | |
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| 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 | | | | |
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| RESEARCH | | | | | |
| **Ebiquity Research Lab, UMBC | Graduate Student Researcher**  Baltimore, MD | | | | | **Sep 2019 – May 2020** |
| * Authored an [Ontology](https://ebiquity.umbc.edu/paper/owl/id/887/Context-Sensitive-Access-Control-in-Smart-Home-Environments) for Smart Home Access Control by extending earlier research in Semantic Web. * Developed an [Android app](https://github.com/sofiadutta/AndroidSmartLights) for handling context-sensitive access control in a Smart Home Environment. * Created [YouTube videos](https://www.youtube.com/watch?v=DZq-oZ_Cv1g&list=UUEB2cqBZTym9WxWvGu2UA0w) for presentation to the National Institute of Standards and Technology. * Published a [paper](https://ebiquity.umbc.edu/paper/html/id/887/Context-Sensitive-Access-Control-in-Smart-Home-Environments) at the IEEE Big Data Security 2020 conference. | | | | | |
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| BEST DEEP LEARNING PROJECT (till date): [Image-to-Image Translation Using CycleGAN](https://sofiadutta.github.io/datascience-ipynbs/pytorch/CycleGAN_Img_Translation_PyTorch_Horse2Zebra.html) | | | | | |
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| 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. | | | | | |

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