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Hammad A. Usmani

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PROFESSIONAL EXPERIENCE

Moody's Analytics – *Software & Data Engineer* **New York City, NY** | *December 2019 – Current*

- Analyzes algorithms and data science methods to implement machine learning solutions for finance problems
- Specializes in deep learning techniques including RNN's, CNN's, transfer learning, and cluster analysis.
- Improved AUC scores by 14% to 145% on recommendation problems utilizing deep learning.
- Developed on AWS Athena, ECS, ECR, EMR, and S3 to create a data lake infrastructure with Scala & Python.

MIT Lincoln Laboratory – *Software Engineer* **Lexington, MA** | *April 2018 – December 2019*

- Produced R&D, data analysis, machine learning, and software engineering to solve advanced weather problems.
- Engineered solutions with technologies including Python, Tensorflow, JavaScript, SQL, and Django on CentOS.
- Implemented lossless compression technique to reduce model output size by 99.2% in real time for live updates.
- Earned *2018 Best Paper Award* with team from Massachusetts Institute of Technology's Lincoln Laboratory.

Simpluris – *Data Analyst* **Orlando, FL** | *January 2017 – March 2018*

- Completed 204 big data ETL projects as lead data analyst and processed more than 200 end to end projects.
- Produced and calculated analysis with SSRS reports utilizing SQL and Excel for class action lawsuits.
- Increased efficiency of API parsing algorithm by 97% from Big O(n) to Big O(log(n)) in Python & Scala.
- Developed duplication detection algorithm by incorporating Levenshtein Distance in Python & Scala.

SHAMAN – *Software Engineer* **Orlando, FL** | *October 2015 – December 2016*

- Achieved multiple National Science Foundation Innovation Corps (I-Corps) grants for IoT and big data analytics.
- Developed software on various customer relationship management platforms including SalesForce and Odoo.
- Calculated reports and analytics through RapidMiner, Python, PHP, PostgreSQL and Tableau visualizations.
- Engineered prototyping boards with RFID read and write functionalities interacting with PostgreSQL in C.

EDUCATION

University of Central Florida – *B.S. Computer Science* *December 2016*

Harvard Business School Online – *Core, Entrepreneurship Essentials* *February 2017*

Georgia Institute of Technology – *M.S. Computer Science* *Current*

CERTIFICATIONS

IBM – *Big Data Programming, Big Data Hadoop Foundations, Big Data Foundations* May 2016

Udacity – *Machine Learning Engineer Nanodegree* *March 2018*

SKILLS

Programming Languages: Python, Scala, Java, C/C++, SQL, MongoDB, JavaScript, Bash, Docker

Machine Learning: Supervised Learning, Unsupervised Learning, Reinforcement Learning, Deep Learning, GAN's

Cloud Computing: Data Modeling, Data Analysis, Data Science, Spark, AWS, Google App Engine, Azure ML Studio

RESEARCH

Global Synthetic Weather Radar – https://doi.org/10.1175/JTECH-D-18-0010.1

- Collaborated with scientists from MIT Lincoln Laboratory on weather problems by utilizing deep learning.
- Incorporated data science by analyzing satellite data, engineering databases, quality assurance, and visualization.
- Published work for the 2018 and 2019 American Meteorological Society annual conferences.

Hurricane AI: Recurrent Neural Network – github.com/hammad93/hurricane-net

- Invented a novel deep learning framework for global tropical storms utilizing deep learning, CNN, and RNN's.
- Developed on Tensorflow, Google Colab, and Scala with data from Google Earth Catalogue and NOAA Databases.
- Published subsequent work at the American Meteorological Society conferences for 2018, 2019, and 2020.