Hammad Ahmad Usmani

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Experience

- **Lockheed Martin**
  Senior Artificial Intelligence Research Engineer, NYC, NY — Feb. 2021 - Present
  - Engineered data pipeline for the search of quality records yielding $1.2 million in cost reductions.
  - Programmed automations that extracted, transformed, and loaded (ETL) data with Python, and SQL.
  - Creates machine learning solutions including large language models, clustering, and neural networks.
  - Deployed data science pipelines with Python, ElasticSearch, Flask, Tensorflow, and PyTorch.

- **Moody's Analytics**
  Software & Data Engineer, NYC, NY — Dec. 2019 - Feb. 2021
  - Produced algorithms, ETL pipelines, SQL, or data science and machine learning solutions.
  - Specialized in deep learning techniques, including RNNs, CNNs, transfer learning, and cluster analysis.
  - Improved AUC scores by 14% on recommendation problems utilizing deep learning with ETL software.
  - Developed on Athena, ECS, ECR, EMR, and S3 to create a data lake infrastructure with Scala & Python.

- **MIT Lincoln Laboratory**
  Software Engineer, Lexington, MA — Apr. 2018 - Dec. 2019
  - Produced R&D, ETL scripts, data analysis, machine learning, and SQL on advanced weather problems.
  - Engineered solutions with technologies including Python, Tensorflow, JavaScript, SQL, and Django.
  - Implemented lossless compression technique to reduce model output size by 99.2% in near real-time.
  - Earned the 2018 Best Paper Award with colleagues including data visualization contributions.

- **Simpluris**
  Data Analyst, Orlando, FL — Jan. 2017 - Mar. 2018
  - Completed 204 big data ETL projects as a lead data analyst and processed over 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 O(n) to O(log(n)) utilizing batch processing.
  - Developed duplication detection algorithm by incorporating Levenshtein Distance in Python.

- **SHAMAN**
  Software Engineer, Orlando, FL — Oct. 2015 - Dec. 2016
  - Achieved multiple National Science Foundation Innovation Corps grants for IoT and big data analytics.
  - Developed software on various customer relationship management platforms, including SalesForce.
  - Engineered prototyping boards with RFID read and write functionalities interacting with RDMS in C.

Education

- **University of Central Florida** — Orlando, FL
  Bachelor of Science in Computer Science — *Graduated Dec. 2016*
- **Georgia Institute of Technology** — Atlanta, GA
  Master of Science in Computer Science — *Current*

Certifications

- **Harvard Business School Online**
  Certificate in Entrepreneurship Essentials *2020 - 2020*
- **Harvard Business School Online**
  CORe Credential of Readiness *2017 - 2017*

Skills

- **Programming Languages**: Python, Scala, Java, C/C++, SQL, ElasticSearch, JavaScript, Shell
- **Machine Learning**: Clustering, Large Language Models, Neural Networks, Forecasting
- **Cloud Computing**: ETL, Data Modeling, Data Analysis, Data Science

Publications

- Patel, A. B., **Usmani, H.**, & Brant, J. C. (2021). *Multivariate LSTM approach to hurricane intensity and tracking predictions.* 101st American Meteorological Society Annual Meeting. https://ams.confex.com/ams/101ANNUAL/meetingapp.cgi/Paper/380154
- **Usmani, H.**, Habibi, A., & Habibi, D. (2020). *A deep neural network to globally forecast the track and intensity of tropical cyclones.* 100th American Meteorological Society Annual Meeting. https://ams.confex.com/ams/2020Annual/meetingapp.cgi/Paper/370104
- Veillette, Mark S, Iskenderian, H., Lamey, P. M., Mattioli, C. J., Banerjee, A., Worris, M., Proschitsky, A. B., Ferris, R. F., Manwelyan, A., Rajagopalan, S., **Usmani, H.**, T. E. Coe, J. E. Luce, and B. A. Esgar. (2020). *Global synthetic weather radar in AWS GovCloud for the US air force.* 100th American Meteorological Society Annual Meeting. https://ams.confex.com/ams/2020Annual/webprogram/Paper363150.html
- Iskenderian, H., Veillette, M. S., Mattioli, C. J., Lamey, P. M., Hassey, E. P., Banerjee, A., Worris, M., Cancio, K., Rajagopalan, S., **Usmani, H.**, Dreher, J. P., Hock, N., & Radovan, J. (2019). *Global synthetic weather radar capability in support of the U.s. air force.* 99th American Meteorological Society Annual Meeting. https://ams.confex.com/ams/2019Annual/meetingapp.cgi/Paper/355542
- **Usmani, H.** (2019). *A deep recurrent neural network to forecast the intensity and trajectory of Atlantic tropical storms.* 99th American Meteorological Society Annual Meeting. https://ams.confex.com/ams/2019Annual/webprogram/Paper353476.html
- Almalki, H. M., Rabelo, L., Davis, C., **Usmani, H.**, & Hollister, D. (2016). *Analyzing the existing undergraduate engineering leadership skills.* SYSTEMICS, CYBERNETICS AND INFORMATICS. http://www.iiisci.org/Journal/pdv/sci/pdfs/MA302FK16.pdf