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Hammad A. Usmani

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PROFESSIONAL EXPERIENCE

MIT Lincoln Laboratory – *Software Engineer, DoD Secret Security Clearance* **Lexington, MA** | *April 2018 – Current*

- Produces R&D, data analysis, machine learning, and software engineering to solve advanced weather problems
- Engineers solutions with technologies including Python, Tensorflow, JavaScript, SQL, and Django on CentOS
- Developed global infrastructure on a machine learning pipeline from model outputs to a web application
- 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 data projects as lead data analyst and processed more than 200 end to end projects.
- Produced and calculated analysis for class action lawsuits and assembled SSRS reports utilizing SQL and Excel.
- Increased efficiency of geolocation 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*

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

EDUCATION

University of Central Florida – *B.S. Computer Science* *December 2016*
Harvard Business School Online – *CORe: Credential of Readiness, Pass* *July 2017*
Udacity – *Machine Learning Engineer Nanodegree* *March 2018*
Georgia Institute of Technology – *M.S. Computer Science* *Current*

SKILLS

Programming Languages: Python, Scala, Java, C/C++, SQL, MongoDB, JavaScript, UNIX, Docker
Machine Learning: Supervised Learning, Unsupervised Learning, Reinforcement Learning, Deep Learning, GAN's
Big Data: Data Modeling, Data Analysis, Data Science, Spark, HDFS, AWS, Google App Engine, Azure ML Studio

PROJECTS

Deep Learning: Recurrent Neural Network – github.com/hammad93/hurricane-net *January 2019*

- Invented a novel deep learning framework for Atlantic tropical storms utilizing Bidirectional LSTM layers
- Achieved state of the art performance compared to statistical baseline for 72 hour forecasts in wind intensity
- Presented at the 2018 American Meteorological Society's conference and accepted for the 2019 AI session
- Developed on Tensorflow, Google Colab, and Scala with data from Google Earth Catalogue and NOAA

Deep Learning: Convolutional Neural Network – hammad93.github.io/deeplearning *December 2017*

- Trained and compiled an image classifier from a custom CNN architecture and transfer learning from ResNet50.
- Developed sequential architecture with convolutional, max pooling, and global average pooling layers.
- Classified images with an 81.0% accuracy after 20 epochs on a p2.xlarge AWS EC2 instance on a NVIDIA K80 GPU.

Big Data Management Tools – github.com/bdmt *April 2016*

- Developed software for administration of Hadoop, HUE, Apache Ambari, Spark, YARN, Pig, and HIVE.
- Programmed administration metrics and visualizations by utilizing Node.js, AngularJS, and ChartJS.
- Delivered tools with research and development team for University of Central Florida affiliated use