

# Aysha M. Machingara

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## EXPERIENCE

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### IBM

Sep. 2019 – Present

*Data Scientist*

*Financial Services Chicago, IL/ NYC, NY*

- **COVID Recovery Index:** Developed COVID impact planning strategy for fortune 50 automobile insurer in the US by predicting the impact of COVID on driving at a county level with a MAPE of 10% for 500 large US counties. Used ping data from cellphones and other socio-economic and epidemiological variables. Predicted the Unemployment rate using google trends on unemployments claims with 15% MAPE for 35 states. Formulated metrics and built a real-time dashboard for consumption by over 100 members and presented insights to CTO  
*Technology Used:* Python, pyspark, fbProphet, scikit, Tableau Server(TabPy)
- **Advanced Automation Platform:** Built an enterprise-ready micro-service, event-driven architecture on AWS for intelligent automation of claim handling and deployed in production, reducing manual work by 42k hours/year for fortune 50 automobile insurer in the US  
*Technology Used:* Python, SQL, sqlalchemy, Terraform, CI/CD - Gitops, AWS - lambda, SQS, DynamoDB, Secrets Manager, S3, Step Functions
- **Natural Language Processing:** Deployed NLP framework for analyzing regulatory compliance documents and identified gaps with existing controls as REST API for real-time prediction, delivering \$12MM cost savings/year  
*Technology Used:* Python, Flask, Logistic Regression, Random Forest, Gaussian MM, Latent Dirichlet Allocation, scikit-learn, spaCy (Entity Recognition)

### Affine Analytics

Feb. 2016 – Jul. 2018

*Senior Data Scientist, Managing Consultant*

*Bangalore, India*

- **Search Experience:** Implemented Statistical, hypothesis, and A/B testing for a leading search engine in Ads Display, improving Revenue/Page by 0.5-1%. Analyzed experiment sensitivity and implementation practicality. Formulated metrics to measure usability and total impact. Scripted optimized SQL queries to handle 500GB of data a day by analyzing Query Plans and pulled information from over 20 data sources to study user search behavior. Collaborated with stakeholders for influencing product decisions  
*Technology Used:* Python, PowerBI, Excel, Microsoft Cosmos BigData(SQL), PowerPoint
- **Proof of Concept Solutioning:** Collaborated cross-function with leadership, product, engineering, and sales to develop Proof of Concepts by identifying trends in Retail and Tech Domain. Converted two fortune 500 clients adding revenue of \$1.5 MM  
*Technology Used:* Python, Azure, PowerPoint, draw.io, Tableau
- **Market Mix Optimization:** Developed a non-linear multiplicative model to optimize the marketing budget for a leading fitness tracker by handling over 10 data sources, increasing ROI by 8.3%. Built a scenario optimizer for budget planning  
*Technology Used:* Python, Excel Solver
- **Retail Pricing Optimization:** Deployed ML model for optimizing clearance markdown using Price Elasticity and spearheaded adoption across 400 retail stores improving revenue by 7-9%  
*Technology Used:* Python, pyspark, Teradata (SQL), Scipy Optimization

### Mu Sigma

Jul. 2014 – Sep. 2015

*Trainee Decision Scientist*

*Bangalore, India*

- **Retail Pricing Strategy:** Generated \$30 MM across 1500+ stores for a leading fortune 100 retailer. Formulated metrics and performed clustering to identify price increment opportunities using national average, competitor presence, and customer price sensitivity. Built real-time dashboards to monitor and report impact to CEO  
*Technology Used:* Python, SQL, Hadoop, K-means, Tableau Server
- **Dashboard Automation Workflow:** Identified automation opportunities using in-house workflow and NLP for product description similarity, reducing manual intervention by 65% (\$ 1MM savings/year). Delivered impact to C-executives in QBR  
*Technology Used:* Python, SQL, NLP(TF-IDF, Cosine Similarity), Tableau Server

## EDUCATION

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### Carnegie Mellon University

Pittsburgh, PA

*Master of Information Systems Management; GPA: 3.79*

*Aug. 2018 – Aug. 2019*

### Visvesvaraya Technological University

Bangalore, India

*Bachelor of Industrial Engineering and Management; GPA: 3.90*

*Sep. 2010 – May 2014*

## AWARDS

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- **Idea Award at IBM:** Most Impact on Society and the World for Financial Services through Analytics
- **Most Innovative Award at CMU:** Code4Pennsylvania Hackathon on Opioid crisis
- **Most Practical and Innovative Award from Flipkart:** International Gridlock Hackathon on using advanced analytics to ease city traffic

## ENTREPRENEURSHIP

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### Owl's Nest

Jan. 2013 – May 2014

*CoFounder*

*Bangalore, India*

- **Midnight Food Delivery Service:** First of its kind midnight food delivery service turning \$5K in revenue in 2 months

## TECHNICAL SKILLS

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**Languages:** Python, SQL, VBA

**Tools and Skills:** Data Science, Machine Learning, Analytics, Data Visualization, Deep Learning, Statistics, Data Mining, Terraform, spaCy, Spark, Tableau, GIT, MS-Excel, Docker, PyCharm, Eclipse

**Statistics:** Statistical Testing, Hypothesis Testing, A/B Experimental Testing

**Databases:** Postgres, AWS-DynamoDB, AWS-RDS, MySQL, SQL Server

**Cloud:** AWS, Azure, IBM Cloud

**Visualizations:** Tableau, PowerBI, AWS Dashboarding