**DHWANI KAPOOR**

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**EDUCATION**

**University of Pennsylvania**, School of Engineering and Applied Science, Philadelphia, PA **May 2018**  
**Master of Science in Engineering Candidate, Scientific Computing** (Data Science)

**Relevant Coursework:**

Databases & Information Systems, Data Modeling & Statistical Analysis (R), Simulation Modeling and Analytics, Data Mining (Large Datasets), Inferencial Statistics, Numerical Methods, Machine Learning, Data Structures/Algorithms

**Research Projects:**

* *Twitter Sentiment Analysis: Large-Scale Implementation*
* Implemented stochastic machine learning algorithm for analyzing tweet sentiments on high-dimensional data (1.6 million tweets)
* Built a data processing using module using python (regex, pandas, sklearn) to transform the dataset into feature vector (bag of words)
* *Recommender system: Advertising 'k' best movies to users of an ecommerce website*
* Built a recommender system to advertise ‘k’ best movies (dataset of ~4000 movies) to a user for improved customer experience
* Implemented Greedy and Lazy Greedy algorithms (Python) for sub-modular function maximization and maximizing hit rate
* *Image Segmentation using K-means*
* Implemented online K-means algorithms to find cluster centroids. Used stochastic methods (random seeding) for faster convergence. Generated segmented images using resulting centroids for use in 3D modeling
* *Private & Public Key derivation using deep learning*
* Developed key pairs from embeddings created using Deep Learning and Metric Learning approaches for cryptographic guarantees
* Used ImageNet dataset to train a Siamese network using ResNet-50 network and double-margin loss for learning similarity
* *Independent Study*: Analyzed incentivization influence on decision making capacity of vehicular nodes during events that cause disruption

to road traffic. Used Queuing models to optimize evacuation time on dynamic randomly generated vehicular data

* *Olympics 2020*: Analyzed Olympics’ data (SQL and R) to understand the impact of socio-economic parameters on a country’s performance.

Performed data collection, database design and querying on multiple data sources (relational database); created a prediction model

**Awards:**

* **Placed 2nd at Yale Data Hackathon**: Predicted the possibility of police misconduct in the US using a GLM regression model. Created

network graphs and predictive models to understand behavioral and network-related correlation of police misconduct

* **Placed 2nd at Penn Healthcare Innovation Challenge**: Designed a smart analytical tool backed by machine learning algorithms for Penn Medicines web portal. The tool recommends optimized health solutions and intelligent scheduling operations

**Delhi Technological University**,Delhi, India **May 2014**

**Bachelor of Technology in Electronics & Communication**

**TECHNICAL SKILLS**

* Programming Skills : SQL (T-SQL, SAP Hana) , Python (Numpy, Pandas, Matplotlib, scikitlearn, Scipy), R
* Analytical Skills : Statistical Modeling (Hypothesis Testing, A/B testing, ANOVA, Forecasting), Big Data, Deep-Learning
* Tools : Tableau (Data Visualization) , Excel (Power User), SSIS, SAP BI, MS Office, SQL Server Management Studio

**INDUSTRY EXPERIENCE**

**Penn Medicine,** Philadelphia **June 2017 – Present**

**Strategic Decision Support Intern**

* Responsible for analyzing data, data presentation and quantitative analyses for health quality and performance measures
* Developed KPIs for analyzing patient activity trends, physician economics and competitors snapshot
* Performed ETL process and data analysis on patient satisfaction data sets for presentation to business stakeholders

**Aranca,** Delhi, India **July 2015 – July 2016**

**Senior Research Analyst**

* Assessed IP risks and market opportunities of low cost consumer-end 3D printing; recommended product features for overcoming design

constraints for new product development and provided business insights on future marketing strategy to a toy manufacturing firm

* Conducted market research of 3D semiconductor packaging (medical & defense) to develop competitor/ consumers landscape
* Evaluated market outreach of startup companies working in AI domains in APAC region; recommended acquisition/partnership decisions

**Thomson Reuters**, Delhi, India **June 2014 – June 2015**

**Associate,** Intellectual Property Consulting

* Assessed a large patent portfolio (3000 patents) of a leading Asian telecom institute resulting in strategic out-licensing negotiations
* Reviewed complex telecom standards to identify standard-essential patents from client’s portfolio for patent licensing decisions
* Conducted qualitative research and technology landscaping of major automotive players to strategize future business goals for the client