# Rakesh Ravi K U | Data Scientist

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## Education

**Master of Science in Data Science, University of Virginia**                    2018 - May 2019
*Courses - Bayesian Machine Learning, Deep Learning in Visual Recognition, Machine Learning and Text Analytics*

**Bachelor of Technology, Mechanical Engineering**                    2010 - 2014
SRM University, Chennai, India

## Work Experience

**Research Assistant (Data Science) - University of Virginia**                    Jul 2018 - Present

- Performed topic modeling and event identification on social media data for one of the top baseball leagues using Latent Dirichlet Allocation.
- Currently building an Convoluted Neural Network based classifier in Pytorch to distinguish between fan and athlete images posted on a sports league twitter handle.

**Senior Data Analyst - Media IQ, Bangalore**                    Jul 2017 - Jun 2018

- Devised campaign strategy, built reporting capabilities and handled business reviews through data analysis and predictive modelling.
- Published a **dashboard on Tableau** for an e-commerce advertiser which displayed product recommendations based on market basket analysis of customer purchase data. This was utilized by the advertiser for effective cross-selling.
- Deployed a **Random Forest** model on user engagement data for an advertiser that identify the users were most likely to convert. This doubled the conversion rate of their campaign and resulted in 100% increase in advertising budget.

**Business Analyst - Global Performance Delivery, InMobi, Bangalore**                    May 2015 - Jun 2017

- End to end ownership of delivery of campaign analytics and client relationship for advertisers. (**Client portfolio constituted a third of InMobi's revenue** in Europe).
- Built and managed large data sets to define network benchmarks for engagement rates across regions which helped clients assess their ad performance.
- Automated the delivery of daily revenue stats by collating data that was extracted from three orthogonal reporting APIs. These stats were utilized by the entire global team for monitoring their campaigns.

## Data Science Projects

- **Characterization of cyber-criminal activity at UVa:** Deployed a Deep Neural Network to detect malicious cyber-activity on the university's network traffic data (Project is funded by DARPA). The model delivered an accuracy of 99% and a false positive rate of 1.1%. Invited to speak at the **Tom Tom Applied Machine Learning Conference.**
- **Network Anomaly Detection Using Machine Learning:** Building an unsupervised learning model using Isolation Forest and auto-encoders to detect anomalous connections on network traffic data acquired from Los Alamos National Laboratory.
- **Fine-Grained Numeral Understanding in Financial Tweets:** Developed a deep learning model in Tensorflow using character-based Convolution Neural Network to classify numerals in financial tweets into categories based on context which will be used to forecast stock prices based on investor/analyst opinions.
- **Hotel Recommendation System - Booking.com:** Built a recommendation engine in Python using k-means clustering algorithm on data scraped from booking.com. The recommendation engine was powered with user satisfaction scores from sentiment analysis performed on user reviews.

## Data Science Skills

- R, Python (Pandas, NumPy, Sklearn, Tensorflow, Keras, Matplotlib, Pytorch, Plotly, SciPy, NLTK, spaCy, fastai), MySQL, HiveQL, AWS, Tableau, Introductory Spark, Google Analytics.

## Significant Achievements

- Published two **first-author research papers** on applications of Data Science in Cybersecurity at SIEDS 2019 (Systems Engineering Conference).
- **Writer** at Towards Data Science
- College Sports Experience - **Tennis** - University of Virginia (2018 - 2019), SRM University (2010 - 2014) **Badminton** - University of Virginia (2018 - 2019)
- Nationally ranked Tennis player (2005 - 2010) and certified Tennis coach (2016 - Present) - India