

UConn School of Business

MSBAPM NEWSLETTER

July 2016



Picture Credits – Srinivasa Ravi Theja

UConn MSBAPM welcomes the class of Fall-2016

UConn
SCHOOL OF BUSINESS

CONTENTS

THIS MONTH

- *Apache Spark – Redefining Big Data Analytics*
- *Analytics in Action – Automobile Industry*
- *How to Prepare for Your Career at the Start of a New Semester*
- *Intern Experience - Being a Flam-Intern, a journey at Oriental Trading Company*
- *Project Corner: Visual Analytics*
- *Experiential Learning Collaborative – The Winning Team’s Perspective*
- *Faculty Spotlight – Dr. Tamilla Mavlanova*
- *Student Spotlight – Taneja Young*
- *Alumni Spotlight – Monisha Tyagi*
- *Talent of The Month*
- *Entrée Fervor*
- *UConn MSBAPM Alumni – Touching Lives through Data Science*

Apache Spark - Redefining Big Data Analytics

From among the many terms used frequently from the English dictionary by data enthusiasts, 'Big Data' is probably the winner by a long shot. The first documented use of the term – 'Big Data' appeared in a 1997 paper by scientists at NASA. In 2001, industry analysts described the '3Vs'- volume, variety and velocity – as the key parameters describing a 'big data' and now, Wikipedia describes 'big data' as an "all-encompassing term for any collection of data sets so large and complex that it becomes difficult to process using on-hand data management tools or traditional data processing applications." As we continue to explore new avenues and greater heights in machine learning and advanced analytics, it is equally imperative to understand the critical importance of upcoming technologies and frameworks that have the capability to store, manipulate and analyze 'big data', processing gigantic datasets, social media streams, live customer reviews and much more. One such big data framework and technology to look forward to, at least for the next few years is – Apache Spark! Apache Spark is an open source big data processing framework built around speed, ease of use, and sophisticated analytics. It was originally developed in 2009 in UC Berkeley's AMPLab, and open sourced in 2010 as an Apache project.

Understanding Hadoop and MapReduce

In order to understand and appreciate the Apache Spark framework better, it is important to revisit some of the most commonly used words in big data technology – MapReduce and Hadoop. MapReduce is a programming model and an associated implementation for processing and generating large data sets with a parallel, distributed algorithm on a cluster. On the other hand, **Hadoop** is an open-source software framework for storing data and running

applications on clusters of commodity hardware. It provides massive storage for any kind of data, enormous processing power and the ability to handle virtually limitless concurrent tasks or jobs. Hadoop as a big data processing technology has been around for 10 years and has proven to be the solution of choice for processing large data sets. MapReduce is a great solution for one-pass computations, but not very efficient for use cases that require multi-pass computations and algorithms. Each step in the data processing workflow has one Map phase and one Reduce phase and we will need to convert any use case into MapReduce pattern to leverage this solution.

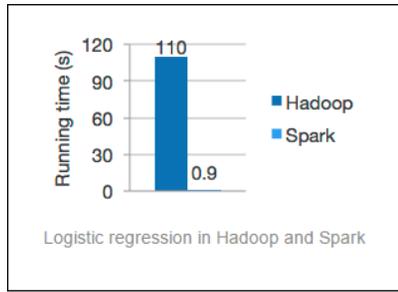
The Job output data between each step has to be stored in the distributed file system before the next step can begin. Hence, this approach tends to be slow due to replication & disk storage. Also, Hadoop solutions typically include clusters that are hard to set up and manage. It also requires the integration of several tools for different big data use cases (like Mahout for Machine Learning and Storm for streaming data processing).

If we wanted to do something complicated, we would have to string together a series of MapReduce jobs and execute them in sequence. Each of those jobs was high-latency, and none could start until the previous job had finished completely.

Why Apache Spark?

Before we proceed ahead, it is important to understand that Apache Spark doesn't replace Hadoop. We should look at Spark as an alternative to Hadoop MapReduce rather than a replacement to Hadoop. It's not intended to replace Hadoop but to provide a comprehensive and unified solution to manage different big data use cases and requirements.

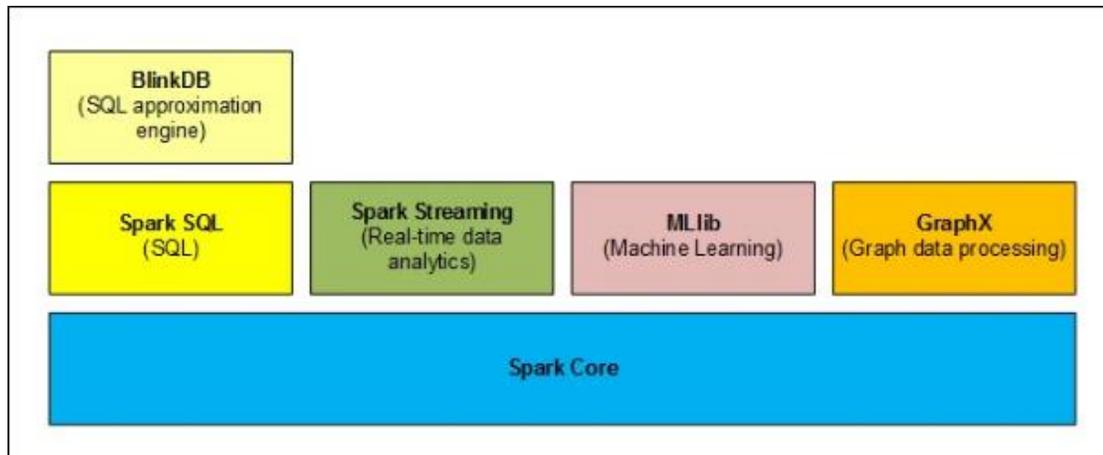
Speed: Apache Spark tries to keep things in memory, whereas MapReduce keeps shuffling things in and out of



disk. MapReduce inserts barriers, and it takes a long time to write things to disk and read them back. Hence MapReduce can be slow and laborious. The elimination of this restriction makes Spark orders of magnitude faster. It can run programs up to 100x faster than Hadoop MapReduce in memory, or 10x faster on disk.

Ease of Use:

- a. Spark is much more powerful and expressive in terms of how we give it instructions to crunch data. Spark has a Map and a Reduce function like MapReduce, but it adds others like Filter, Join and Group-by, so it's easier to develop for Spark.



- b. Spark is more intelligent about how it operates on data. Spark supports lazy evaluation. Normally we don't like anything to be lazy, but in this case, lazy evaluation means that if you tell Spark to operate on a set of data, it listens to what you ask it to do, writes down some shorthand for it so it doesn't forget, and then does absolutely nothing. It will continue to do nothing, until you ask it for the final answer. Why is this great? Because often work magically goes away. This is a bit like when you were in high school, and your mom came

in to ask you to do a chore ("fetch me some milk for tonight's dinner"). Your response: say that you were going to do it, then keep right on doing what you were already doing. Sometimes your mom would come back in and say she didn't need the chore done after all. Magic, work saved! Sometimes the laziest finish first

Versatility:

- a. Unlike MapReduce, where pretty much everything has to be done in Java, Spark supports many languages like Scala, Python, R, Java and Clojure, giving it a versatility edge over its counterparts.
- b. Spark also adds libraries for doing things like machine learning, streaming, graph programming and SQL (see image). This also makes things much easier for developers. These libraries are integrated, so improvements in Spark over time provide benefits to the additional packages as well. Most data analysts would otherwise have to resort to using lots of other unrelated packages to get their work done, which makes things complex. Spark's libraries are designed to all work together,

on the same piece of data, which is more integrated and easier to use. Spark streaming in particular provides a way to do real-time stream processing.

MLlib is Spark's machine learning (ML) library. Its goal is to make practical machine learning scalable and easy. It consists of common learning

algorithms and utilities, including classification, regression, clustering, collaborative filtering, dimensionality reduction, as well as lower-level optimization primitives and higher-level pipeline APIs.

Apache Spark, with all its amazing capabilities, is still a lesser matured ecosystem for big data and is still being further developed in areas like security and integration with other 'Business Intelligence' tools, but the future

of Big Data analytics sure looks bright with such capabilities already in place and ‘Open Source’!

<https://www.infoq.com/articles/apache-spark-introduction>

<https://www.mapr.com/blog/5-minute-guide-understanding-significance-apache-spark>

<http://spark.apache.org/>

Analytics in Action – Automobile Industry

With the advent of a global world, connected by hi-tech cities and world-class infrastructure around the world, inter-connectivity with state-of-the-art roads and highways, there has been an explosive growth in the automobile industry. Needless to emphasize, analytics has deep rooted applications in this industry as well. In this article, we will discuss three analytics use cases within the automobile industry.

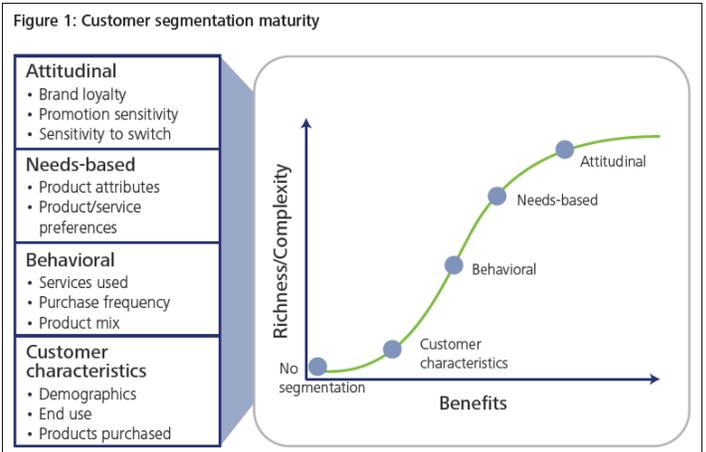


Using Analytics to enhance how automakers engage with customers

With increasing customer reliance on social media and the Internet as a research and communication tool, car manufacturers today may want to rethink and evolve how they engage buyers throughout the sales and

ownership cycles. Doing so is critical to automakers’ ability to differentiate themselves amongst a growing and increasingly more competitive set of brands. As technology, especially consumer technology, revolutionizes the car buying and post-purchase service experience, automakers need to adapt and reconsider how to connect with on-the-go consumers that increasingly expect a personal and customized experience.

One real example is related to the recent discontinuation of automotive brands. When a brand is discontinued, historically, 90 percent of the customers that owned the brand are prone to defection. One major original equipment manufacturer (OEM) recognized this challenge and the potential loss of customers as it developed its strategy to shutter a major brand. The OEM understood that if it was going to be successful in shuttering the brand and not losing a significant number of customers, it had to develop a dual strategy of migration via brand and retention via service. Moreover, the strategy had to be seamlessly implemented to maximize the impact on at-risk customers. The OEM leveraged analytics to acquire and retain their customer base and managed their growth targets with the brands that were retained. By leveraging data and analytical models to study brand propensity and consumer segments, they estimated 1 percent incremental sales would translate



to about 20,000 additional units and were able to identify targeted offers based on variables analyzed across their call centers, warranty, and sales data to enhance their customer segments. Analytics helped

area introduces a proactive management model, equipping automakers with the ability to continually sense and respond as the industry changes around them. Moreover, advanced supply chain analytics can

Table 1: Customer segmentation dimensions

Dimension	Example attributes	When to use	Example
Demographic	Name/address Demographic data (e.g., age, income, marital status, children) Account type	Developing a customer census (e.g., how many customers are...) Customer interactions with brand/company/product are unknown	Baby Boomers Business customers
Lifestyle	Third-party lifestyle segments (e.g., PRISM, Equifax niche) Leisure activities Car ownership	Marketing a new product or service Developing a customer census Developing an external relationship with a related vendor	Young activities Golfers
Needs	Cost-benefit choice quantification Service level requirements	Key buying factors are not sufficiently differentiated Precision in attributes to tailor value propositions is needed	Availability buyer Relationship buyer Full-service buyer
Attitude	Brand preference Promotion sensitivity Sensitivity to switch	Assess unmet needs and frustrations Measure the brand premium Understanding the decision-making bias	Loyalists Convenience shoppers Cherry pickers
Value	Estimated customer value Customer cost to serve Customer Lifetime Value (CLV)	Where customer buying factors are clear and different between segments Making trade-offs between discounting and adding services	Strategic sourcers Price bottom feeders High luxury
Behavioral	Purchase frequency Product mix Basket size Days since most recent purchase	Quick identification of need Simple sales force instructions Understanding switching behavior	Single, urban and upscale Young families Retirees seeking value

The separation of customers and possible purchasers into groups with similar characteristics and wishes makes it possible to produce tailor-made offers for various segments and thus address these customers more individually.

the OEM protect their approximate 5.7 million customers that were at risk of defection. The annual uplift in revenue based on a 1 percent increase in acquisition rates through better analytics was estimated at \$1.2 billion annually

Cracking the code for global supply chain management

Powerful forces perhaps never before seen in the global automotive industry are having a profound impact on automakers’ ability to effectively manage their supply chains. Globalizing operations to take advantage of high-growth markets, driving innovation strategies that seek to optimize the manufacturing process, and managing regulatory environments around the world are only a few of the forces that are exerting immense pressure on automakers’ supply chain management capabilities. Get it right and OEMs and suppliers have tremendous opportunity to gain a competitive advantage and drive growth.

Advanced supply chain analytics represents an operational shift away from management models built on responding to data. Emerging capabilities in this

help automakers analyze increasingly larger sets of data using proven analytical and mathematical techniques, including regression analysis, stochastic modeling, and linear and non-linear optimization.

These methods and tools can allow automakers to identify patterns and correlations that may have been missed in the past, further enabling OEMs and suppliers to look at the business and the broader



supply chain in new, previously unimagined ways. Advanced supply chain analytics is increasingly providing opportunities for the global automotive

industry to move from historical point-in-time snapshots to real-time data access that pushes analysis and visibility to stakeholders within an organization and across the supply chain. The concept of centralized data warehouses or one-off databases will likely become anomalous in a few short years.

How to Prepare for Your Career at the Start of a New Semester

By Katherine Duncan

If you're anything like me then you're excited for the start of a new semester! Perhaps you'll be starting your first semester filled with nerves and anticipation for what the new school will bring! Maybe this will be the second semester and you're feeling more confident now that you have one under your belt and only one more to go after that! Or, it's your final semester and you are wondering how it went by so fast! Whatever stage of your degree that you're in - we're happy to have you!

A lot of students ask me how they can start preparing now for their career plans before or as the semester starts. I'm glad you asked! Here's my advice:

- Make a list of your goals for the semester! If you put them down on paper, then you'll be more likely to be focused on them and hopefully accomplish them all!
- If you're not sure what you want to do after UConn (or even if you *think* you know) you can take a career assessment to gain more insight into your interests and strengths. Go to HuskyCareerPrep, in the Career Exploration Tab, there's a "Quick Profile"
- From this new information perform a Gap Analysis on yourself. What skills do you need to add to your background to make you a better fit for your desired profession?

- Join a new club, sports team, or volunteering project! This is a great way to meet people and start networking!

Remember, it's up to you to make the most out of all the experiences available to you! So take advantage of all that UConn and BAPM offers.

I look forward to seeing you this semester!

Intern Experience - "Being a Flam-Intern, a journey at Oriental Trading Company."

By Monika Katariya – Student MSBAPM

It was the morning of March 2, 2016 when I had a muddled thought about my summer internship offer at Oriental Trading Company (OTC) in Omaha. I was excited since I had an offer to my dream job as a Statistical Modeler Intern but spending the whole summer in Nebraska was quite a challenging decision to make. Being a city-girl my whole life; first in Mumbai India and then in Hartford Connecticut, I kept asking myself the same question over and over again, "what will I do in Omaha?" I was afraid to step out of my comfort zone and leave the busy city life behind.

Today, it's been ten weeks in Omaha and I am happy to admit that I did the right thing by choosing the internship at Oriental Trading. Omaha is the largest city in Nebraska overlooking Iowa and its green corn fields. They say this city is the place for good food, good life with great company and I can only agree with that statement. But what truly makes Omaha great is the Oriental Trading Company with its amazing people and fun culture. OTC, as employees tend to call their company, is one of the largest catalog companies in US, offering toys, crafts, and educational games. I work here as a Statistical All summer interns with Sam Taylor, CEO, Oriental

Trading Company (front rows, second from the right) and myself (fourth from right).



All summer interns with Sam Taylor, CEO, Oriental Trading Company (front rows, second from the right) and myself (fourth from right).

Modeler in the Analytics team of Marketing department. Analytics team is responsible for finding the right customers to mail catalog at the right time from its portfolio of 3 million customers whom they served over 80 years. My team consists of eight members who include a manager, a lead statistician, three statisticians and three interns. My team's responsibility majorly involved running statistical procedures in SAS to find potential customers to send catalogs who are most likely to buy thus, increasing profits which in turn decrease cost of mailing catalogs. It was since day one, I felt welcomed to the company.

On day one after the orientation; I was given my summer project. I was given a survey data for a new product launch to find patterns and trends in potential customers. At school and in the past I had done several projects but this was different as it involved real-time survey data with biases. I took up this challenge and started my statistical analysis on SAS (my favorite tool) using various techniques. My

manager, Eimar Kusseoks influenced me the most. He has an eye for perfection and his statistical knowledge dazzles me. Under his guidance, I learned new modeling techniques and how to approach a business problem. Every day at work, I discovered new things at work and also, the data surprises me most which I believe is the most exciting part of being a modeler.

A whole lot of my life here includes my fellow intern. As a part of the internship we have been given accommodation in the University of Nebraska Omaha dorms at Aksarben, a beautiful neighborhood in Omaha. We are 18 interns from across 14 universities in USA. Everyone come from different cultures which gives me far different experiences away from home. They all have different roles in different departments like Sourcing, Merchandising, Finance, etc. The various areas of expertise and unique skills they have make me learn more. We play sports after work and explore new places every weekend. We have traveled to St. Louis, Kansas City and Chicago so far. We also did participate in a Water Volley Ball contest under team name as Flam-Interns at the Annual Employee Appreciation picnic. My roommate Yeva Muradyan, a girl from a small town in Armenia currently studying in California has been a great friend.

This internship not only did enhance my analytical skill but also gave me an experience to cherish for lifetime. The team meetings, the one on one session with my manager, the lunch parties at OTC, the giggling in office, loud music at dorms, teasing friends

would be missed. Thus, moving on to the last two weeks of my internship now is a bit saddening.

P.S. The name Flam-Interns is a combination of Flamingos, the symbol of OTC and summer interns.

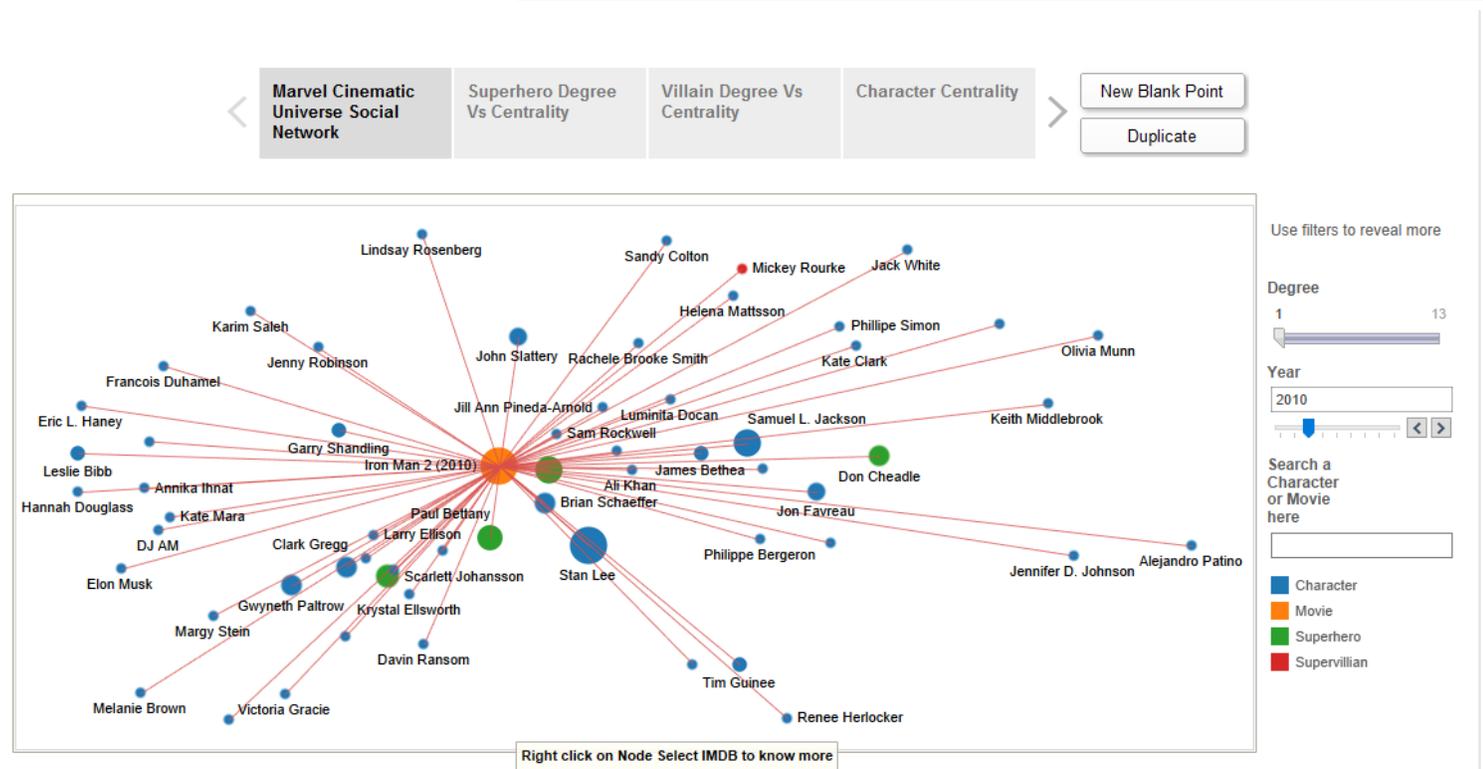
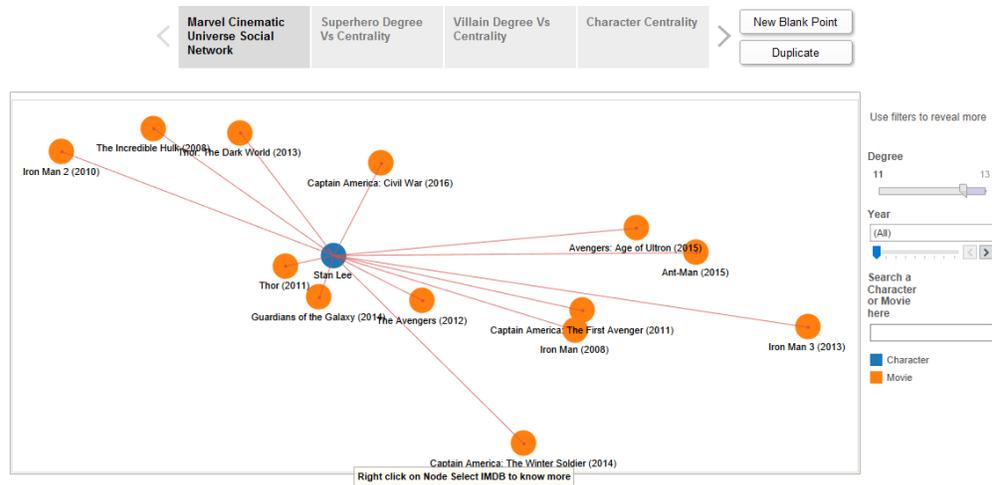
of the network and has appeared in all 13 movies and has the highest degree. We have also visualized the centrality and degree attributes of characters/superheroes/villains.

Below are a few visuals from the final dashboard

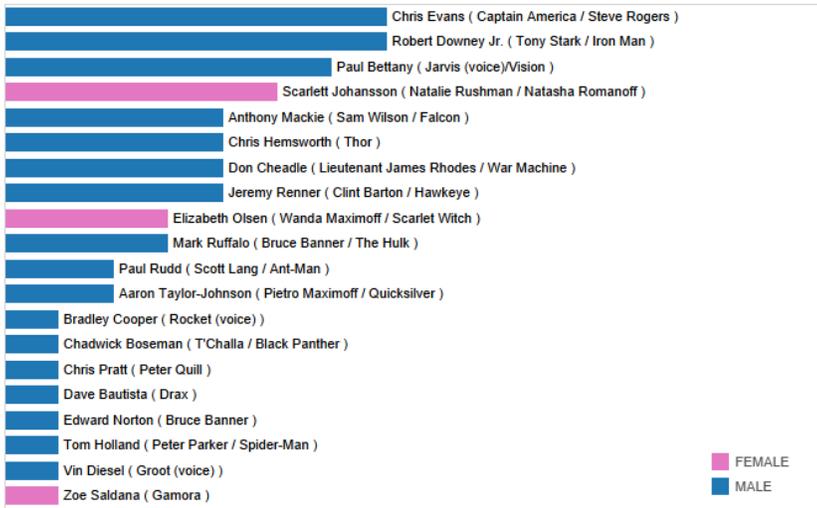
Project Corner: Visual Analytics

Marvel Cinemas – A Story of Superheroes and Villains

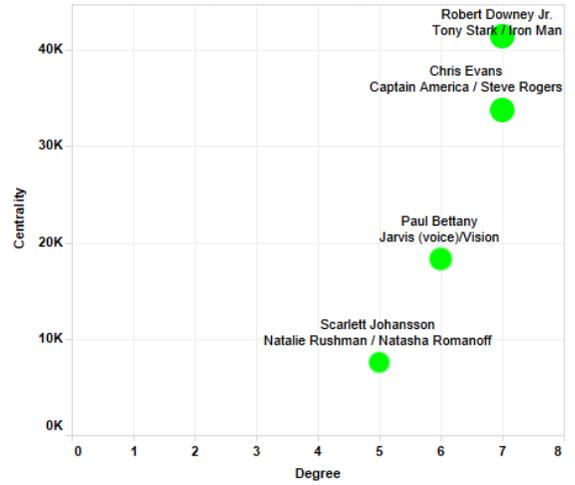
The marvel cinematic universe has 783 actors/actresses who have worked in 13 different movies over a span of 8 years, visualizing its network graph gives important insights such as which characters have a significant impact on the social network as well as which individuals are popular in the network. Stan lee who is the creator of all these wonderful characters, is at the center



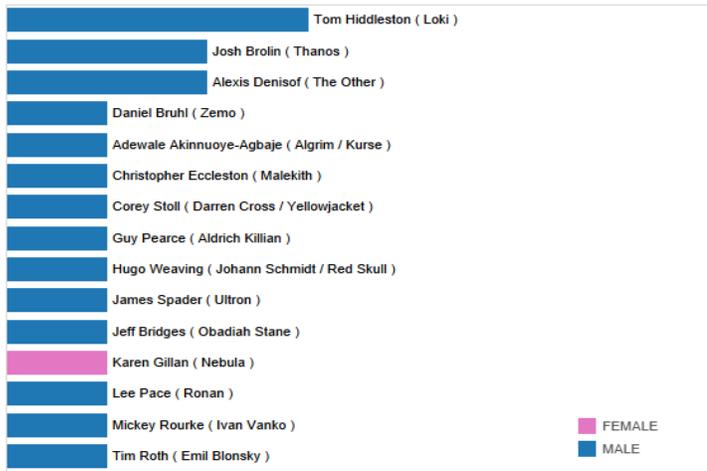
Superhero Degree



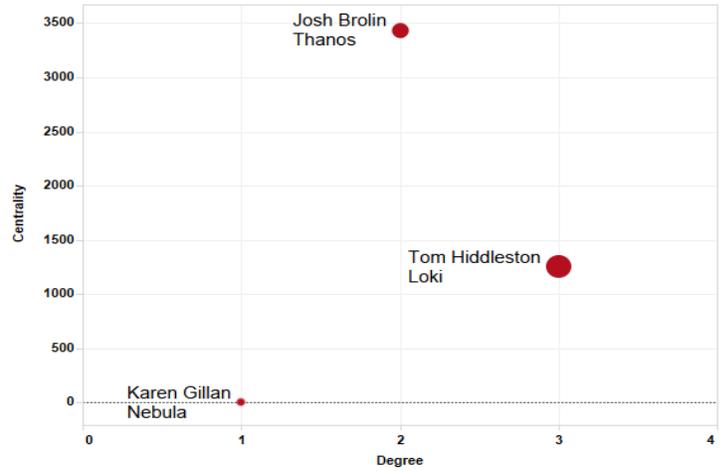
Superhero Centrality vs Degree (Most Prominent)



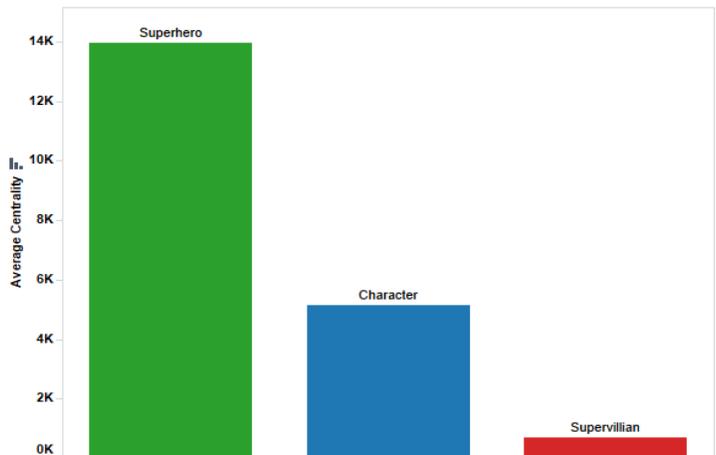
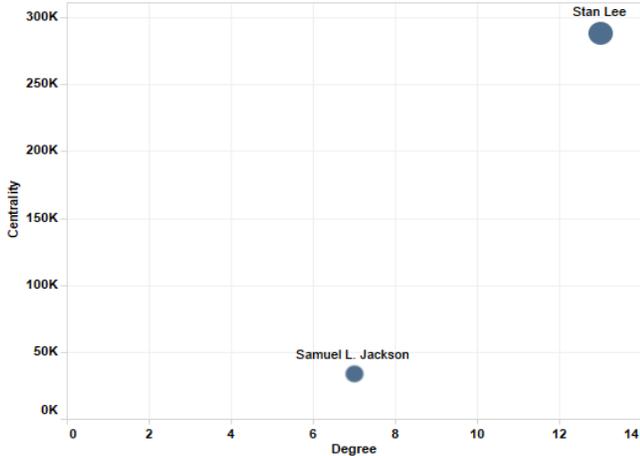
Supervillain Degree



Supervillain Centrality (Alive) vs Degree



Character Centrality vs Degree (Most Prominent)



Team Members: Anuj Kumar, Hemant Singh, Siddharth Kajampady

Combatting The Risk of Employee Attrition

Employee attrition and candidate renegeing on job offers are significant business concerns for organizations, one even bigger than attracting talent. Employee attrition is a serious issue, especially in today's knowledge-driven marketplace where employees are the most important human capital assets and attrition can have an impact on an organization's competitive advantage.

As a Direct impact of attrition the organization's internal strengths and weaknesses get highlighted affecting the clients and business they work with in addition to onboarding new hires which further adds up the training cost incurred to getting them aligned to the company culture.

Attrition also brings in the problem for the organization in attracting potential employees as employees leaving brings decreased productivity, causing others to work harder and this contributes to more attrition as an indirect impact.

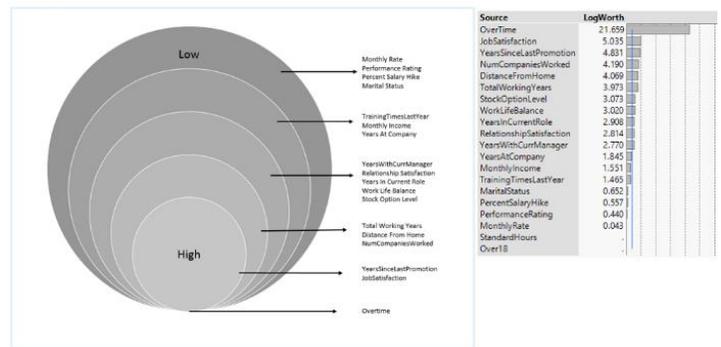
In order to eliminate effects that attrition might have on the productivity and profitability of organization, many different combinations of analysis were used in our study to identify the characteristics of employee likely to attrite at the initial screening stage. For a business case, one can have multiple ways to work with the data and come up with a reasonable solution. Since this project study was part of the application of learnings from Visual Analytics class but core statistical subject, hence, majority of the insights were drawn from the visual standpoint.

However, the use of some basic descriptive statistics along the fine line of statistics based on the variables provided at the preliminary phase, helped us to whittle down the key variables that are highly influential factors impacting attrition, which helped us to perform much more sophisticated analysis. Looking for an explanation of these results, the team realized that Attrition isn't always about money. Sometimes giving

an employee more holidays, better projects or more flexible working hours can be a much more effective way of boosting their job satisfaction. With the grouping of various influential factors, we gained a much clearer view of what people look forward to in their jobs, which is the key to retaining the talent that makes the organization successful.

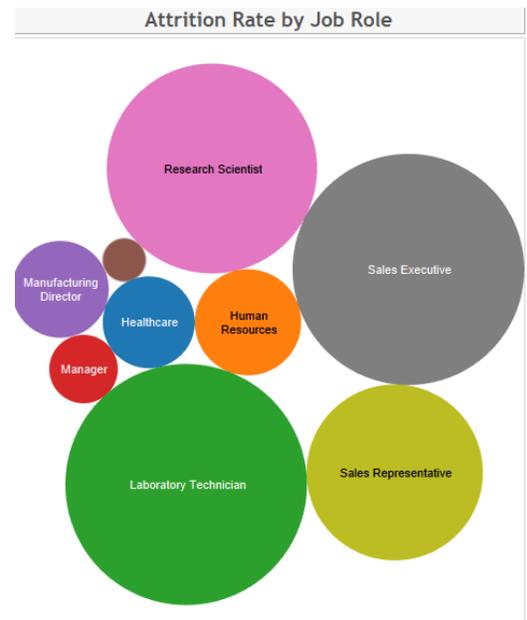
Logistic Regression Result in JMP

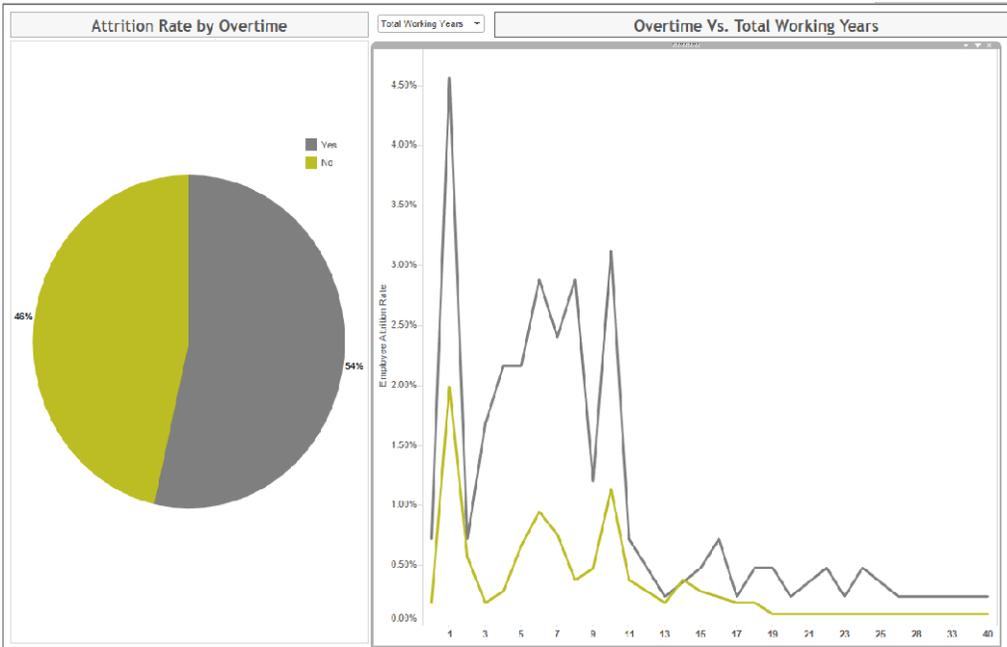
Significant Variables



We learned a lot about how attrition can be influenced by factors, not easily captured within the systems like Distance from work, Work life balance, Job satisfaction, training times etc. Going forward, this helped us to understand that the employees who have held the office for a year have shown a higher attrition rate compared to other employees who have done longer

tenures, hence we could draw the conclusion that people are impatient with the lack of growth within the first year of





disadvantages to the other employees, the option to work from home might be given to all the employees under strict discipline to maintain the status quo and to retain the employees.

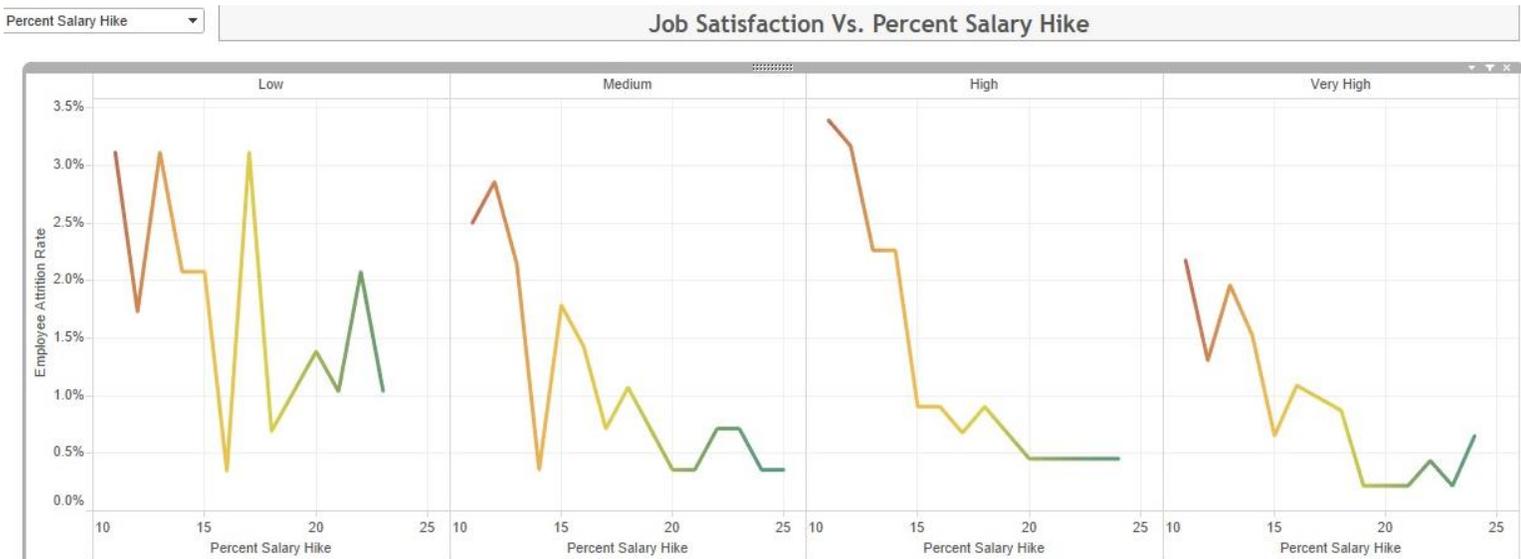
An effective analysis is one which gives a better understanding of when attrition occurs and in which employee groups, as it can help organizations take action in areas that can strengthen overall organizational performance. Similarly, our

employment. The possible solution would be to give the employees a belief that their loyalty and commitment towards work would be rewarded with adequate growth in the future. The other very interesting learning we got was with respect to the employees who are at a far distance from work place are the ones who do not leave the organization.

Surprising, as it sounds, these set of employees are driven to work for the company because of the perks that have been provided to them by the organization. The perks range from work from home to extra pay they receive for their long commute. To nullify such

knowledge and ability to comprehend the data effectively led us to draw the conclusion that there are certain factors that precipitate uncontrollable departures such as loss of employees because of spousal relocation which gives an opportunity to the organization's policymakers to develop policies and procedures such as telecommuting that can help mitigate such losses.

Other factors like Percent salary hikes, Pay of an employee as per the performance, Stock options etc. have always contributed in deciding the employees' length of stay / tenure in the organization. Hence, one



of the feasible solution which we as a team came up is to ensure that the management gives satisfactory monetary and non-monetary rewards to the deserving candidates to keep the motivation of others high within the firm.

To conclude, we realized the potential of superior quality analysis for the organization and felt that the worthiness of our analysis could have improved with the information of involuntary and voluntary turnover stats as it's the most effective human capital metric which reflects high performing organizations and low performing ones as these results would suggest that organization's recognize that attrition metrics, have value to offer their firms.

Team Members: Manas Jani, Shresta Balerao, Shreya Chandra

Future of Cars

Future of Cars visualization project shows the story to predict the future generation of cars. Ten years from now, in 2025, cars will be different, the drivers will be different, the market will be different, and the producers will certainly be different. The team believe that these changes will affect billions of people – from soccer moms to automotive executives, from taxi drivers to investment bankers.

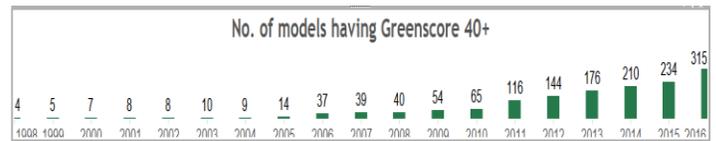


Many considerations go into buying a new car. You'll consider price, styling, comfort, performance, safety, reliability, and of course, how well the vehicle will serve your needs. The decision comes down to cost versus value: how much you are willing to pay for the features you want to get.

The data tells us that consumers are demanding greener, safer, more convenient and affordable cars.

1. Greener Technologies:

The toll that cars take on the environment is often hidden but always very real. This toll includes unhealthy air pollution, oil spills and fouling of water supplies, damage to habitats, and global climate



disruption. If you care about the environment, then what you value goes beyond performance or styling and the options featured in the showroom.

So in order to achieve the greener environment from the automotive sector the LEED organization have been issuing a benchmark called Greenscore. This Greenscore is given out of 100 for every model released into the market including the specifications variants for every model i.e. fuel type, emission type, engine type etc. More the Greenscore greener is the car. According to the Greenscore report in the recent times from LEED the number of models having Greenscore more than 40 have been increasing over the years from 4 in 1998 to 315 in 2016.

So this is an omen to the automobile industry that the industry is moving towards greener environment and have to design for the future models which are having a higher Greenscore.

2. Convenient:

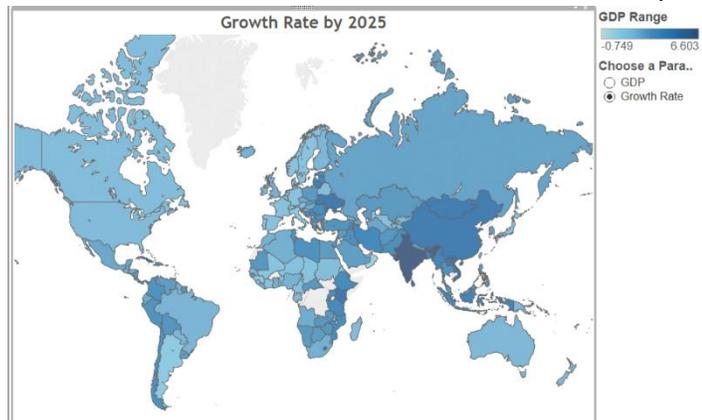
As the days are passing on, the urban to rural population ratio is increasing due to the urbanization process. From 2015 to 2025 the urban population is estimated to increase nearly by 4 % as per recent WHO reports.



As the urban population is increasing, there is always an increased chance of traffic inconvenience. Thus, the number of hours a particular driver spends in a traffic jam in a year also increases.



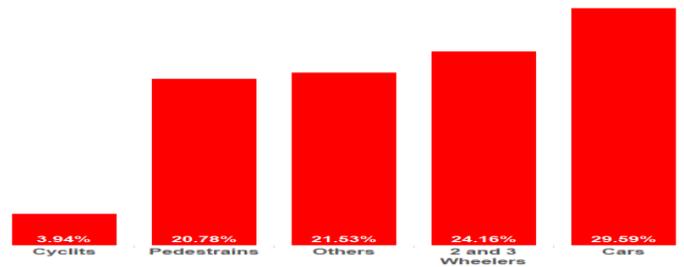
In more developed cities in USA like Washington, Atlanta, Chicago etc. the no. of hours an individual driver spends in traffic jam per year is greater than 60 hours. This would decrease the productive hours of the individuals which in turn effects the economy of



the country. So the manufacturers have to picturize

the traffic beforehand and design the vehicles accordingly. There is always a need for compact cars.

Road Deaths by Transportation Mode



3.Safe:

Safety is the first and the foremost thing concerned for each and every individual. As per recent report by WHO, 30% of the road deaths are due to the cars. So there is a need employ safety standards while designing a car model and perfect testing has been done to ensure the safety of the customers.

4.Affordable:

Getting to know the emerging markets and targeting them is key strategy for any business. The developing nations will be the more emerging markets which dominate the future growth of automotive industry. The increase in the per-capita income accounts for increase in new car purchase in the world. We estimate that by 2025, the developing nations will reach a level for the first time, creating a new demand for smaller cars with lower prices and lower operating costs.

From the future estimates and the growth rate by 2025, India and China would be the target locations to invest and gain market for the manufactures in automotive industries.

Team Members: Mownika Chalichama, Ankit Agarwal, Long Phan, Phanindra Krishna Musunuri

Experiential Learning Collaborative A Winning Team's Perspective



What is Experiential Learning Collaborative?

A heartfelt thanks to the University of Connecticut School of Business for organizing a program like Experiential Learning Collaborative (ELC). It is an opportunity provided to graduate students to work on the real-world business problems.

Can you tell us the brief project objective that you have worked on?

Currently, there are 5 major players in the elevator construction field. Columbia elevators, a pioneer in elevator construction industry, took a new initiative to start a new business entity - Independent Elevator Builders' Association (ELBA) that can drastically change the competitive structure of the entire industry. We, team Hartford, designed a sound business plan and suggested a right direction for Columbia elevators in implementing this new entity.

What are your key findings and learnings from the program?

We identified the key components and developed a structured marketing and promotion campaign for

ELBA which includes time table to address the critical needs for both short term and long term. We also developed organizational structure and financial model which gave important business insights to the senior executives of ELBA. In the course of the project, we gained and improved many skills some of which are leadership skills, team building skills, presentation skills etc. We were able to apply our class room learnings to a real world business problem with the help of this project.

Can you tell more about the program structure?

Two teams would be designated for a project, so that competitive environment is fostered. Ultimate goal of both the teams is to turn ELBA from a concept into a profitable well-functioning business that can compete with other big players in the industry. Both the teams will get certificate of appreciation and winning team gets an award. We were glad that we emerged as a winning team.

Is the project finished? Do you suggest students to take this project?

This is a multi-phase project and started in spring 2016, and we worked on phase II of this project. Phase III and Phase IV of this project are expected to start in fall 2016. We feel privileged to be part of this program and we would recommend graduate students to take advantage of the program.

Team Members – Yoganand Guttikonda, Praveen Sanka, Long Phan

Faculty Spotlight

Dr. Tamilla Mavlanova



Dr. Tamilla Mavlanova, can you briefly introduce yourself and shed some light on your research areas?

I have been with UConn since 2014. Prior to that I worked at the Fordham University in New York City and the American University in Bulgaria. My PhD in Business is from the City University of New York. In addition to teaching, I have a passion for research and discovering new things. My research has focused on the signaling aspects of online commerce and user behavior on the internet. My current research streams revolve around two areas – the value of data resources for organizations and the use of gamification in improving data quality.

My interest in exploring the value of data resources emerged from the availability of big data. As the cost of computing and storage declines, data are easily collected in large volumes. It is generally believed that data resources and data products contribute to the organizational success. The question of interest here is how to create and capture the value through data resources. To answer these questions, together with my colleagues, I study the usage of data in various industries and evaluate the impact of data on the companies' success.

Another area of my research is gamification which is the concept of applying game elements and game mechanics to engage and motivate people in a non-game context. The possible applications of this research are in the areas of risk evaluation and consumer behavior. For example, in insurance, the risk assessment of the policy holders can be gauged based on the results of the game that involves some potentially risky behaviors. In e-commerce, the game can involve tasks that may reveal personal characteristics of the player, such as openness to new experiences, and can be used in more focused marketing campaigns.

As the academic director of the Business Data Analytics in the OPIM department, what are some of the analytics areas that UConn can continue to pursue in order to strengthen its momentum and continue to produce world class analytics professionals?

The current curriculum covers all the essentials of data analytics and beyond. We are proud to have stellar professors and talented students. We continue offering new courses such as Social Media Analytics that was offered this summer in GBLC. Some interesting areas of data analytics applications are related to the Internet of Things (IoT), real time behavioral analytics for security applications, and data stitching that links behavioral data, customer profiles and multichannel interactions to better understand customers.

As per your experience as a professor, what are some of the key things that students should focus on, in order to ensure application of academic concepts to real life business problems?

Of course participating in data contests and challenges is quite helpful. In addition, learning R or Python adds tremendous flexibility in data analytics. I also believe that being a good team player is very important. The data analytics field has been growing and it is getting more challenging to know everything about data

analytics. Building your network of analytics professionals and learning from each other is valuable.

How do you prefer spending your spare time and find time to relax after a hectic schedule?

I like reading and absorbing new information, so in my spare time I read – books, newspapers, magazines, blogs. Having an intelligent conversation on any topic is always a pleasure. I also like working out and playing tennis - It clears the mind and helps me focus. When I have more time, during the breaks, I travel and attempt to learn new languages and culture. So far, I have lived in three different continents and visited almost 70 different countries and counting.

Student Spotlight

Taneja Young

Briefly introduce yourself

I was born on the island of Barbados, but grew up on the island of Trinidad in the Caribbean. My early childhood was idyllic. My adolescence was busy. I came to the U.S. for college, worked for 3 years, and then joined BAPM.



You have more a Bachelor of Science degree in ‘Chemical Engineering’, from Yale University. What was your motivation to join the master’s program in analytics, given the diversity of your background?

When I graduated from college, I joined a leadership development program at a specialty chemicals company. In this program, I had several roles, one of which was business analyst. My company had just implemented the salesforce.com platform and I also became one of its administrators. One of my tasks

involved mass downloading data which had been uploaded by sales reps and technical analysts, and creating graphs which showed predicted demand for some of our commodity products, as well as opportunities for growth in demand. I also had to analyze a lot of data in Excel and create basic models to predict things like optimum pricing etc.

On the engineering side, I worked as a Quality engineer which involved collecting even more data, and analyzing it to address customer complaints.

So, analytics was actually a huge part of my job. I decided that I wanted to become better at understanding, using and creating mathematical models, and also gain exposure to the tools of analytics. I also thought that analytics would be the way of the future, and could be applied to any industry, anywhere.

Can you shed some light on how the ‘Consumer and Industrial Products’ Industry can leverage analytics and innovation, given your extensive work experience in this sector?

As you can see from my last answer, in every role at my previous company, there was some data collection and analysis involved. In manufacturing operations, you must monitor everything - temperature, pressure, flow rates, etc. Using data sensors, you can monitor and adjust conditions to optimize your process. You can also use sensors and data analysis for things like preventive maintenance and security, to detect anomalous behavior and address it before it becomes a big problem.

On the business side, there are also the more ubiquitous marketing campaigns. I think we are living in a pretty exciting time, because there is a lot of room for analytics to solve problems like excess supply, etc.

Which industry and role would you like to join after graduation and why?

My goal is not to join a specific industry. Rather, I'd like to join a company whose mission resonates with me, and a role which would allow me to leverage my background in science and experience in analytics and management. I'm particularly interested in having a healthy, balanced lifestyle, so companies like Fitbit are appealing. Another company I like is 23andme, which is a genetic testing company which uses genetic data to predict risk of disease, etc. Another area I'm interested in is artificial intelligence for the home so I like companies like Nest, which was acquired by Alphabet (aka Google). All of these are problems which I would like to work on. I think if you work on stuff you believe in, you can spend less time doing stuff you don't like, and more time actually doing what you like and creating the kind of world you want to live in. A lot of people told me to do "what you love" before I graduated, but I don't think I really understood the wisdom until I got a bit older.

How do you maintain a work/study-life balance amidst a busy schedule?

Maintaining balance isn't always easy, especially when you have other goals – like advancing your career, taking care of family, etc. It takes discipline. I try to make the following a priority: get proper rest, get 3 proper meals a day, and try not to sit in front of the computer all day long. Try to incorporate exercise into your day. E.g., take a walk while talking on the phone to loved ones back home. Another thing is to make a plan every morning and stick to it. I try to do these things, but sometimes I am really bad at being balanced. I just try every day to do better than yesterday.

Alumni Spotlight

Monisha Tyagi

Can you walk us through your professional journey after graduating from the MSBAPM Program?

I am currently working as a **Systems and Data Analyst** at Fisher Investments, an independent investment advisor serving both individual and institutional investors. My work at Fisher has helped me evolve as a person both professionally and personally.

Honestly, I love the fact that I can learn from my team and my mentor every day. There is one thing to build a model and another to translate your findings to a not so data savvy audience.

What are some of the analytics tools/techniques that you apply as a part of your current role?

I use SQL, R and Excel for my analysis. Recently, I have been working on a Market Mix Model through which the firm would be able to allocate their Marketing budget in such a way that optimizes revenue. I also work on campaign analysis, A/B testing and special Ad Hoc requests from different departments on a daily basis.

Can you share some important tips/best practices for the current MSBAPM students looking for full-time opportunities, given your understanding of the analytics industry and its demands?

- Be patient cause the right job will come to you – You are a MSBAMP graduate after all
- Be honest during your interview



- Be more involved with your projects (especially capstone)
- Concentrate on your own career development and not others' as this program has people coming in from different fields with different goals

How does it feel to be on the other side of the MSBAPM Program? What do you miss the most about college life?

I am literally on the other side of this continent. Jokes apart, I love paying my bills! I miss the constant motivation from my professors, hanging out with my friends and Friday nights at Barcelona.

Is there a difference in the fun/spare time activities that you used to do as a student vs. a data Analyst now (assuming you do have some spare time)?

My spare time is definitely much more planned. Back in school, I had abundant spare time and a handful of activities to choose from and now my ever-growing list has to be squeezed in after my work. I love hiking, hot yoga, traveling and swimming.

**Talent of the Month:
A Story of
Paintings and Art
Monika Verma**

Name: Monika Verma

Work Experience: Seven Years

Last Company: Western Union

Last Designation: Senior Data Analyst

A painter, an artist – call different names, I like to call myself an articulator, who can transform her ideas into works of art that are keeps for a lifetime. Included in this article are some of my paintings and art-work and the inspiration behind these.



The inspiration behind this painting was “Flowers have always made me happy, they add color to life. They make the atmosphere lively.



The inspiration behind this painting was “Fall Season”. Out of all the seasons, Fall season is very colorful with green, yellow, red and purple trees. As they say ‘Autumn passes and one remembers one's reverence’.



The inspiration behind this sketch was from last summer when I visited Prague, I could not help but get indulged in the magnificent beauty, art and culture of the city. It was a city of alchemists and dreamers, its medieval cobbles once trod by golems, mystics, invading armies. One of the most historical landmarks is “Charles Bridge”. It's a historic bridge that crosses the Vltava river in Prague,

Rangoli - Diwali is festival of colors and lights. Rangoli is one major part of it. This Rangoli was made last Diwali in my hometown in India



This lamps were created with Led lights and old wine bottles.



Entrée Fervor

Eggplant Parmesan



Ingredients

- 3 eggplants, peeled and thinly sliced
- 2 eggs, beaten
- 4 cups Italian seasoned bread crumbs
- 6 cups spaghetti sauce, divided
- 1 (16 ounce) package mozzarella cheese, shredded and divided
- 1/2 cup grated Parmesan cheese, divided
- 1/2 teaspoon dried basil

Directions

1. Preheat oven to 350 degrees F (175 degrees C).
2. Dip eggplant slices in egg, then in bread crumbs. Place in a single layer on a baking sheet. Bake in preheated oven for 5 minutes on each side.
3. In a 9x13 inch baking dish spread spaghetti sauce to cover the bottom. Place a layer of eggplant slices in the sauce. Sprinkle with mozzarella and Parmesan cheeses. Repeat with remaining ingredients, ending with the cheeses. Sprinkle basil on top.

4. Bake in preheated oven for 35 minutes, or until golden brown.

Pan Seared Salmon



Ingredients

- 4 (6 ounce) fillets salmon
- 2 tablespoons olive oil
- 2 tablespoons capers
- 1/8 teaspoon salt
- 1/8 teaspoon ground black pepper
- 4 slices lemon

Directions

1. Preheat a large heavy skillet over medium heat for 3 minutes.
2. Coat salmon with olive oil. Place in skillet, and increase heat to high. Cook for 3 minutes. Sprinkle with capers, and salt and pepper. Turn salmon over, and cook for 5 minutes, or until browned. Salmon is done when it flakes easily with a fork.
3. Transfer salmon to individual plates, and garnish with lemon slices.

UConn MSBAPM Alumni – Touching Lives, through Data Science

Bharath Shivaram and Parth Kulkarni

While I was in school, my parents made sure that I spent my summers in a



remote village in India. My father always wanted me to experience the hardships of living in the villages. He felt that it will make me humble and appreciate the dignity of labor. That did not seem interesting at the age of 16, where I still liked my bike and enjoyed playing video games at the comfort of my home. But looking back in life, I see how it made all the difference in my life. The good part of growing up in a country like India is you get to be a mute observer of complex social issues facing the rural and urban space around you. As an adult - I started to think – although the country had a large number of educated population, most of them lacked employable skills.

I realized very soon that this was not an accident, but a flaw in the education system in the country, a deficit of quality education. I saw, on the ground zero, how the problem of education is interrelated to the problem of poverty. I could see how unemployed people feed the circle of poverty which further causes problems related to crime and violence in the society. These life experiences have taught me that complex problems do not exist in isolation, they are surrounded by other problems in space and time. If we are determined to solve complex social problems, we must apply systematic thinking and data science to deliver holistic solutions.

To solve such complex problems facing our communities, I along with Parth Kulkarni, alumni of MSBAPM started ‘Progressive Insights’, a nonprofit organization with a vision to empower social and public sector institutions with data driven approaches and factual insights.



Every action that we undertake at Progressive Insights impacts the lives around us. Social impact lab is at the heart of progressive insights. The question we ask ourselves at our social impact lab is – How do we create a social impact in the world around us using systems thinking and data science? We serve the society through its four pillars: Data Science, Data Literacy, Data Advocacy, and Data Research. Our mission is to empower nonprofit organizations, governments, think tanks, international organizations to proactively use data and systems thinking to solve complex problems. Progressive Insights helps social and public sector institutions who work sectors such as - rural development, education, environment, public health and poverty. We both firmly believe that the problems created by the society can be solved with the data generated by the same society. Data we believe contains in it hidden stories of economic inequality, educational discrepancies, environmental problems and many other untold stories of human suffering.

Today, we are 30 talented individuals who are spread across the world, who have together to make this world a better place through data science and systems thinking. We at progressive insights believe that a group of thoughtful, committed citizens can change the world. If you are interested to volunteer for an impactful cause, volunteer with progressive insights – please visit www.progressiveinsights.org

Newsletter Editors:



Monika Katariya



Alekhya Reddy



Mir Akram Ali Yadullahi