

# Ritika Upadhyay

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## Profile

MS in Management Information Systems graduate student with 2 years of work experience in US Public Sector Healthcare domain & adept at using statistical models and ML algorithms to solve real-world problems & building dashboards to report context-driven insights from data. Strong competencies in Python, SQL and R. Excellent project management, time management & client interaction skills.

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## Key Skills

Programming	Python, Java, C, C++, R
Databases	SQL, PL-SQL
Machine Learning	Classification, Regression, Neural Networks, SVM, Clustering
Visualization & Analytics	Tableau, Microsoft Power BI, MS Excel
Tools	IBM SPSS, R Studio, Github, IBM Websphere, Jupyter NB, PyCharm, MySQL, PL-SQL developer
Productivity	JIRA, Microsoft Office Suite

## Select Projects

### Statistical Analysis of Factors Influencing WhatsApp Usage Among Healthcare Professionals in India

*IBM SPSS / May 2018*

The aim of this analysis was to better understand how physicians use WhatsApp to communicate with patients and which factors set apart those who do from those who don't. This study was a step towards a better understanding of benefits, risks and challenges pertaining to WhatsApp usage by healthcare professionals in India, leading to better use of such technological tools in healthcare.

Some interesting findings:

- A healthcare professional having a separate SIM card/mobile device for work was more likely to interact with a patient using WhatsApp
- If they encounter issues with storing healthcare information transmitted using WhatsApp, they seem significantly less likely to use it.

### Statistical Analysis of e-Visit Availability among respondents to Minnesota HIT Clinic Survey 2016

*IBM SPSS / May 2018*

Used logistic regression to assess which factors distinguish clinics in MN that offer patients e-Visit facilities, and the extent to which they do.

Some interesting findings:

- Primary-care clinics are more likely to offer e-Visits than specialist clinics
- Facilities that use Epic EHR systems are significantly likely to offer e-Visit facilities

### Statistical Analysis of Patient-Centric HIE among Respondents to 2015 AHA Annual Survey ITS

*R / March 2018 - April 2018*

Assessment of patient engagement functionalities offered by hospitals across the US per the survey, with a focus on features offered to patients to access and manage their health records and the mechanisms available for doing so. Some interesting findings:

- Government and non-profit hospitals tend to offer their patients more features for managing their healthcare information.
- The extent to which a hospital shared information with other hospitals & clinics within and outside its network had a significant bearing on the extent of facilities offered.

## Statistical Modelling to Predict Daily Surgical Case Volume at Vanderbilt University Medical Center

*R / February 2018*

## Statistical Modelling to Identify Individuals at Risk of Chronic Kidney Disease

*R / February 2018*

Some interesting findings:

- Females are 123.8% more likely to be at risk of CKD than males
- Unmarried patients are 32.7% more likely to be at the risk of than those who are not.

## Tableau Makeover Monday Challenge

*January 2018 - present*

<https://public.tableau.com/profile/ritikaupadhyay#!/>

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## Work Experience

### Business Technology Analyst at Deloitte Consulting India (Offices of the US)

*August 2015 - May 2017*

Worked on a custom development project for a US State Department of Public Health & Human Services as a business technology analyst.

- Led the Help Desk team of 3-10 personnel to resolve system defects for eligibility determination of citizens of Montana amidst major changes in policy, system functionalities and personnel
- Resolved issues using query development in PL-SQL and walkthroughs with clients
- Analyzed an average of 114 client-raised defects monthly
  - 2500+ defects over two years;
  - identified an additional 100+ production system defects over 22 months
- Other responsibilities included managing KPIs for the team and reporting them daily to the senior management as dashboards

### Project Intern at Metropolitan Water Reclamation District of Greater Chicago

*August 2018 - December 2018*

Goal: 20% improvement in the turnaround time of IT service requests

- Helped save the cost of an Extract-Transfer-Load tool by writing a script using Python to perform ETL
- Performed exploratory data analysis using principal component analysis in Python
- Analyzed issues causing delays and conflicts in service requests, using cluster analysis in Python
- Built predictive data model using logistic regression to predict SLA breach
- Modeled decision trees to classify incidents to assign priority levels
- Identified key metrics and KPIs to monitor IT Service Desk process
- Visualized KPIs using PowerBI

### Project Intern at Zuri Products

*March 2018 - May 2018*

Goal: Assess the impact of marketing actions on sales, traffic and brand choices

- Performed exploratory data analysis using principal component analysis in Python
- Analyzed target cities and customer profiles using linear and logistic data models in Python
- Developed decision trees to classify customers using income and physical attributes

- Analyzed customer interests from text feedback to analyze behavior and brand choices using natural language processing in Python (nltk)
- Applied random forest classifiers to segment market using existing marketing channels
- Defined omnichannel marketing strategy to promote products in the Brazilian market
- Created Tableau dashboard for investors

## Project Intern at 4D Healthware

*September 2017 - December 2017*

Goal: To provide the client with a ranked list of behavioral health service providers meeting specified technical and federal requirements

- Identified three primary scoring criteria on which to evaluate potential partners, based on initial requirements
- Analyzed quality sources of data including communities of incubators focused on healthcare & technology, investor firms' portfolios, attendee lists of (behavioral) health technology conferences, crowdfunding websites, health tech journalism pieces and Twitter activity using hashtags to arrive at an unsorted pool of about 2200 potential partners
- Segmented the unsorted pool of potential partners, and prioritized established and upcoming providers based on their respective assessment criteria

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## Education

### University of Illinois at Chicago

*MS in Management Information Systems, 3.46/4.0*

*May 2019*

### KIIT Institute of Technology

*B. Tech in Electronics & Instrumentation*

*May 2015*

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## Accomplishments

### UIC Board of Trustees Scholarship

*Awarded to 6 students from a batch of ~100 MS MIS graduates.*

*Spring 2018*

### SPOT Award at Deloitte Consulting

*May 2017*

### SPOT Award at Deloitte Consulting

*July 2016*

### SPOT Award at Deloitte Consulting

*May 2016*