Curriculum Vitae

Rushabh Patel

Machine Learning & Data Science Professional

- Highly analytical and process-oriented data science professional with 3+ years of experience and in-depth knowledge of database types, statistical research methodologies, and big data capture, curation, manipulation and visualization.
- Experience in conducting statistical analyses and predictive analyses on large healthcare data sets. Sound understanding of healthcare processes including Medicare, Medicaid EMR, EHR, Healthcare Industry standards and practices including ICD, CPT and DRG codes and HIPAA Compliance for Healthcare system.
- Experience in acquiring, merging, cleaning, analyzing and mining structured, semi-structured and unstructured data sets for analysis.

Personal Info

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Personal Website

https://rushabh.info/

LinkedIn

https://linkedin.com/in/rushabhpatel5/

Skills

R — Advanced

SQL — Advanced

Redshift — Advanced

H2O — Advanced

AWS — Advanced

Statistical Modelling — Advanced

Experience

Jun 2020 - present

Applied Data Scientist II

Children's Hospital of Philadelphia (DBHi)

- Working in a Department of Biomedical & Health Informatics.
- Applying natural language processing methods to clinical text to extract structured information.
- Using the latest deep learning techniques to classify imaging studies.
- Applying statistical models (with a focus on Bayesian methods) to assist researchers in analyzing missing, erroneous or incomplete patient data.
- Implement statistical and machine learning models, large-scale, cloud-based data processing pipelines and off the shelf solutions for test and evaluation; interpret data to assess algorithm performance.
- Develop novel ways to apply published machine learning models to imperfect clinical data including development of training datasets.
- Develop high-quality, secure code implementing models and algorithms as application programming interfaces or other service-oriented software implementations.
- Manage and scale applications using container technology and cloud hosted managed services.

Feb 2019

Data Scientist

Visiting Nurse Service of New York, Manhattan, NY

- Develop, build, test and deploy machine learning algorithms to support development of business processes for healthcare organization and subsidiary health plan provider, to improve business outcomes and quality of care.
- Create and maintain framework for deploying machine.
- Utilize resulting applications to implement, track and monitor predictive models used to guide business decisions.
- Engineer computational solutions and develop algorithms and applications to meet the predictive needs of clinical and business units across the Visiting Nurse Service of New York.
- Identify clusters of sub-populations of patients who may benefit from targeted care-management strategies: improves positive predicted value for patient outcomes based on sub-modeling for each cluster.
- Ensure accuracy of deployed algorithms is monitored on ongoing basis; alert management when algorithm performance declines, identify causes.
- Ensure data quality throughout all stages of acquisition and processing, including sourcing, collection, ground truth generation, normalization & transformation.

- Predictive Anayltics — Advanced
- Machine Learning Algorithms — Advanced
- Data Visualization — Advanced
- R-Shiny — Advanced
- Matlab — Intermediate
- Python — Intermediate
- Apache Spark — Intermediate
- Scala — Intermediate
- Kubernetes — Begineer
- GCP — Begineer

Jun 2017 - Jan 2019

Data Scientist

Jvion (R&D Department), Johns Creek, GA

- Design statistical models/programs using R to successfully test hypotheses and answer targeted questions in healthcare outcomes research.
- Design algorithms for the recommended actions/interventions that will best prevent adverse events and deterioration.
- Cluster analysis for identifying sub-populations of complex patients who may benefit from targeted care management strategies and improvising positive predicted value for patient outcome by sub-modelling on each cluster.
- Perform analysis on the targets including hospital readmission among Acute Myocardial Infarction (AMI) patients, IP visits, ER visits, MRSA among diabetes patients, congestive heart failure, Clostridium difficile (C. diff.), pressure injury, sepsis and fall-injury.
- Writing complex SQL queries for data investigation and mapping to extract data for analysis.
- Build algorithms to reduce predictive analytics in driving population-level insights and the expected ROI from predictive population health analytic solutions.
- Report and visualize results of statistical analyses, in the form of graphs, charts, and tables using Tableau.

Jan 2017 - May 2017

Research Assistant

University of Illinois at Springfield (Collaboration with SIU School of Medicine)

- Worked on pediatric cancer patient data from SIUSOM and using statistical modelling techniques we identified significant patterns in the diagnosis and treatment.
- Analyzed data to find specific correlations between demographic information and disease unique to the pediatric patients that are served by SIUSOM.
- Concentrated on linkages between socioeconomic status, racial/ethnic demographics, zip code, and other demographic factors and specific pediatric diseases.
- Analyzed these linkages in a manner that allows clinician researchers to reexamine our approaches andtreatment plans on the patients that we serve.

May 2016 - Aug 2016

Research Student Worker (MIS Department),

University of Illinois at Springfield

- Worked on a Supply Chain Management Project.
- Collected and reviewed data from different research studies.
- Wrote R code to perform statistical analysis and meta-analysis on data to get key insights.
- Involved in defining the source to target data mappings, business rules, and data definitions.

Jan 2016 - May 2016

Research Assistant

University of Illinois at Springfield

- Worked on a project named A Novel Computer Aided Diagnosis(CAD) System for Breast Cancer Based on Convolution Neural Network(CNN).
- Presented using an innovative tumor classification method based on convolution neural network on breast mammogram images to improve the diagnosis accuracy.
- A novel training and testing scheme is also proposed to train CNN in an image data-set with limited case number.
- A novel reinforcement sample learning scheme is proposed to train the CNN with less iteration epochs and less training time.

Jan 2014 - May 2014

Intern

Allstate Solutions Pvt. Ltd.

- Worked on a project named Document Processing System, which holds data for customers involved in a claim and where the goal was to predict the exact car insurance options purchased by individual customers.
- Involved in Feature Transformation and Engineering process where I used some of those features as-is, and engineered additional features using transformations or combinations of features.

Jul 2015 - Aug 2016

Co-Founder

PayTooth Software Solutions Pvt. Ltd.

- Proposed a new idea where money can be transferred easily in absence or low range of cellular network.
- Designed & Developed application for PayTooth.
- Analyzed survey data on mobile payment gateways data-set in India to ensure the product launching strategy and Market Intelligence.

Education

Aug 2020 - present

Temple University

- ***PhD Computer Science (AI & Machine Learning).***
- ***Pursuing while working full-time with Children's Hospital of Philadelphia.***

Jan 2016 - May 2017

University of Illinois at Springfield

- ***Master of Science (MS) in Computer Science GPA - (4.0/4.0)***
- ***Honors In Computer Science (For best Academics and Research).***

Jul 2011 - May 2015

Symbiosis International University

- ***Bachelor of Technology (B.Tech) in Computer Science***

Publications

Feb 2019 Pediatric Population Health Analysis of Southern and Central Illinois Region: A Cross Sectional Retrospective Study Using Association Rule Mining and Multiple Logistic Regression

Apr 2017 A Novel Reinforcement Sample Learning Strategy for Convolution Neural Network in Computer Aided Diagnosis System for Breast Cancer, SIIM conference 2017

Oct 2015 Introducing a Hi-Tech - Cloud based Public Transport System, International Journal of Computational Intelligence Research (IJCIR)

Jun 2015 PayTooth - A Cashless Mobile Payment System based on Bluetooth, International Journal of Computer Applications (IJCA)

Apr 2015 Comparative Review of Existing Mobile Payment Systems, International Journal of Applied Engineering Research (IJAER)

Jan 2015 Envision of I-RS (I-Railway System)-based on Cloud Computing, International Journal of Science, Engineering and Technology Research (IJSETR)

Jan 2014 Evolution, Envisage of Mobile Network, International Journal of Scientific Engineering, and Technology Research (IJSETR)