

# JERAD WILLIAMS

Data Science & Healthcare

## CONTACT

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## PROFILE

Want to work on complex problems with a great team.

## EDUCATION

2020  
SPRINGBOARD  
DATA SCIENCE CERTIFICATION PROGRAM

2015  
UNIVERSITY OF SACRAMENTO STATE  
[SACRAMENTO, CA]  
BACHELOR OF SCIENCE IN HEALTH/  
HEALTH CARE ADMINISTRATION/  
MANAGEMENT

## TECHNICAL SKILLS

- Python (Sklern, NumPy, SciPy, Pandas)
- SQL (MySQL)
- Microsoft Office
- Machine Learning
- Time-Series Forecasting
- Natural Language Processing
- Deep Learning
- Statistic and Probability
- Data Visualization

## SOFT SKILLS

- Integrity
- Dependability
- Critical Thinking
- Effective Communication
- Proactive Problem Solving
- Business Sense

## PROJECTS

Jun 2020 – Sep 2020

**Predicting Hospital Readmission with Discharge Summaries |**  
Data Science Capstone | [Link](#)

- Built machine learning models using [Python](#), [NLP](#) and [Deep Learning](#) to predict hospital readmission with discharge summaries to improve hospital resource utilization and reduce cost
- Features used: TF-IDF, One Hot Feature Vector Representation, Float Features, Word2Vec vectors
- Machine Learning Models used: [Logistic Regression](#), Classification, Bernoulli Naive Bayes, Decision Tree, and [XGBoost](#)
- [Deep Learning](#) model used: [LSTM](#)
- [XGBoost model gave best result - 0.73 AUROC Score](#), which is 0.02 less than the State-of-the-Art method which has a score of 0.75-0.76 AUROC (State of the Art method - <https://arxiv.org/abs/1801.07860>)

Mar 2020 – May 2020

**Covid-19 Hospital Resource Forecasting |** Data Science Capstone | [Link](#)

- Used Time-Series Forecasting via Autoregressive Integrated Moving Average models [ARIMA](#) and [SARIMA](#) to calculate how many COVID beds, ICU beds, and invasive ventilators would be needed for the coming year in the US
- Performed data imputation of missing values with the mean of the normal distribution of the feature
- Replaced outliers via quantile values
- Obtained an [MSE of 0 and RSME of 0](#)
- Predicted the requirements of the number of COVID-19 beds, ICU beds, and ventilators with [95% confidence interval](#)

## WORK EXPERIENCE

Nov 2017 – Present

**Supply Chain Analyst |** ClipperCreek

- Implement [Excel](#) formulas to add necessary formatting to report spreadsheets and gained 15% reduction of overages.
- Design and deliver weekly and monthly forecasting reports in Excel to upper management based on analytical requirements
- Analyze forecasted results versus actual performance to identify improvement opportunities
- Manage a supply chain portfolio of five vendor accounts based in Mexico and United States
- Purchase and negotiate with vendors regarding materials, supplies, and equipment to fulfill shipments and orders

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## WORK EXPERIENCE (CONT)

Oct 2016 – Nov 2017

### Rehabilitation Assistant | Burger Physical Therapy

- Trained and exercised the disabled and injured, strengthening their bodies and emotional well-being for coping with disability
- Ordered and managed necessary clinical supplies
- Responsible for arranging transportation for severely disabled patients
- Maintained communication with patients and families through various media channels
- Prepared exercise and therapeutic plans based on individual patient needs

Mar 2007 – Sep 2016

### Purchasing/Supply Chain | Vibra Hospital

- Prepared material requisitions, compared data on requisitions, invoices, and shipping notices for material received or issued to verify accuracy of order with limited assistance from supervisor
- Responsible for ordering materials, supplies, and medical equipment, and follow through with vendors on shipment and delivery
- Compiled and maintained data of quantity, cost, and types of items received, stocked, and issued.
- Compared data on requisitions, invoices, and shipping notices to material received or issued to verify accuracy of order.
- Contacted suppliers to solve missed deliveries, back orders, and price discrepancies.