# *Jeff Laurel, MS2, RRT*

**DATA SCIENCE | MACHINE LEARNING**

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Github Portfolio: [jlaurellax.github.io](https://jlaurellax.github.io)

## **motivation**

I am enthusiastic about solving business problems and improving end-user workflows using Data Science & Machine Learning. I systematically & creatively use my skillset to add tangible value to the team, the business, and the end-user. I am constantly learning, and always looking to improve.

## **Professional Background / skills & tools**

* **Masters Prepared Data Scientist, Epic EMR Analyst / Business Intelligence Developer, and Registered Respiratory Therapist**: 20+ years working in the healthcare domain in multiple roles: bedside clinician (Ambulatory & Inpatient settings), clinical manager, Epic application analyst / builder, Epic Business Intelligence / Data Visualization developer, program manager, and Epic workflow designer.
* **Programming**: Python (Base, Pandas, Numpy, Matplotlib, Seaborn, Scikit-Learn, Keras), SQL
* **Machine Learning**: Linear Regression, Logistic Regression, Decision Trees, Random Forest, KNN, k-means, PCA, Association Rule Learning, Causal Impact Analysis, Deep Learning
* **Other**: Epic Cogito / Business Intelligence Developer, Statistics, Github, Data Visualization, MS Office, Tableau, Jupyter Notebook

## **work Experience**

**Senior BI Developer / Quality Reporting Lead** | OptumCare | Nashville, TN

January 2022 – Present (Consultant Role)

* Built custom dashboard, metrics, and registries detailing care gaps for Oregon Medicaid population which resulted in increased awareness and focus for Quality Team and providers managing the population; 5% improvement with care gaps closure.
* Built custom Radar SQL dashboard and metrics development for displaying the status and closure / close-the-loop rates for active referrals to specialty clinics; 8% improvement in referral closure.
* Performed data analysis using Python to explore datasets containing multiple variables related to Provider workflows (i.e., clinical documentation and schedules) and provided visualizations using Matplotlib to demonstrate mock-ups for other custom Business Intelligence tools that could be developed for improving Provider workflows.
* Developed a Machine Learning model for predicting appointment no-show rates (client not using vendor model) to demonstrate possibility for using such tools to improve provider schedule utilization.

**Reporting and Extracts Consultant** | Mayo Clinic | Rochester, MN

September 2021 – December 2021 (Short-Term Contract for Backlog)

* Business Intelligence developer using Cogito BI tools to convert existing Crystal / Business Objects Clarity reports to Epic Cogito SQL reports and to assist with Report Request backlog.
* Focus on Ambulatory and Dialysis reporting.

**Senior Business & Clinical Data Analyst** | NYC Health & Hospitals | New York, NY

**February 2020 – August 2021 (Consultant & FTE)**

* Business Intelligence developer using Epic Cogito BI tools including Cogito SQL (replacement for Crystal Reports) integrated with Radar SQL Metric dashboards.
* Architect and builder for custom Healthy Planet registries and registry metrics for Primary Care Pediatrics including 3-2-1 IMPACT program and Pediatrics Obesity program and associated Clarity and Reporting Workbench reports.

**Business Intelligence Data Consultant (Nursing)** | Ochsner Health System | New Orleans, LA

**April 2019 – December 2019**

* Architect for Nursing/Respiratory Therapy analytics for reducing harm to patients and for improving patient throughput for Nursing leadership.
* Analyzed clinical documentation with SQL to aggregate counts for specific Nursing documentation fields as part of Nursing documentation Burden quality improvement project.

**Cogito /Clinical Analyst**| Children’s Hospital of Philadelphia | Philadelphia, PA

**May 2016 – April 2019 (Contract + FTE; Cogito Tools and ClinDoc optimization focus)**

* Architect for Radar framework
* Built and designed new workflows for HOD, Inpatient, and Stork applications in tandem with Analytics and Reporting development.
* Clinical Case Management application liaison
* Contact and record-based registry build for Inpatient and Healthy Planet
* Clarity/Crystal report developer (Oracle)
* Custom SQL Metric developer for use with Radar dashboards
* Primary reporting analyst for new Epic module implementations (Clinical Case Management, Home Health, Nephrology)

**Project Manager/Build Architect/Senior Analyst**| Community Medical Centers | Fresno, CA

**October 2015 – May 2016 (Contract)**

* Project Manager for Inpatient Rehabilitation Facility (IRF) rebuild project. Responsible for the creation and maintenance of all project documents (charter, summaries, timelines, workflow diagrams).; resource and timeline tracking; meeting arrangement and reporting to executive leadership team regarding project status; design and implementation of rebuild strategy and communication with key stakeholders.
* Designed the architecture for all workflows related to IRF: case management, physicians, nursing, therapies, support staff; determining creative solutions for issues using Epic tools in new ways with redesigned workflows due to project failure on two previous attempts by client.
* Business Intelligence Developer using Radar dashboards to identify missing documentation.
* Designed and built a flowsheet row system for auto-calculating Therapy Minutes from flowsheet charges using custom M code formulas and routines, CER rules and PAF columns.

(**Selected for 2016 UGM Presentation**)

**Epic EMR Analyst Consultant** | Houston Methodist | Houston, TX

**February 2015- October 2015 (Contract; ClinDoc implementation focus)**

**Epic EMR Analyst Consultant** | Community Medical Centers | Fresno, CA

**April 2013 – March 2015 (Contract; Case Management/ ClinDoc / Stork / Nursing optimization focus)**

**Epic EMR Analyst Consultant** | JPS Health Network | Ft. Worth, TX

**December 2012 – March 2013 (Contract; ClinDoc optimization focus)**

**ClinDoc-HOD Analyst/Instructional Designer Consultant** | Ochsner Health System | New Orleans, LA

**June 2012 – December 2012 (Contract; ClinDoc implementation focus)**

**Epic Inpatient Analyst/Principal Trainer** | Providence Health & Services | Portland, OR

**December 2010 – June 2012 (ClinDoc / Orders focus)**

**Respiratory Therapy Site Manager** | Providence Willamette Falls Medical Center | Oregon City, OR

**March 2010 – December 2010**

**Respiratory Therapy Program Director** | Concorde Career College | Portland, OR

**May 2008 – March 2010**

**Cardiopulmonary & Sleep Lab Manager** | Legacy Meridian Park Hospital | Tualatin, OR

**April 2007 – May 2008**

**Asthma Care Manager**| Neighborhood Health Plan | Boston, MA

**September 2006 – March 2007**

**Adjunct Faculty** | Quinsigammond Community College | Worcester, MA

**January 2006 – July 2006**

**Staff Respiratory Therapist** | Caritas St. Elizabeth’s Medical Center |Boston, MA

**August 2004 – September 2006**

**Respiratory Care Services Manager** | Nashoba Valley Medical Center | Ayer, MA

**October 2004 – December 2005**

**Contract Respiratory Therapist** |Maxim Healthcare Staffing | Newton, MA

**January 2004 – December 2004**

**Critical Care Therapist |** National Institutes of Health | Bethesda, MD

**February 2002 – December 2003**

**Respiratory Therapy Clinical Instructor |** Northern Virginia Community College | Annandale, VA

**October 2001 – December 2003**

**Respiratory Care Practitioner II |** Inova Alexandria Hospital | Alexandria, VA

**November 2000 – October 2002**

## **data science projects**

**See Github Portfolio site for full project descriptions. Summaries for the types of projects are below.**

* Healthcare Domain
  + Inpatient Length of Stay Data Preparation & Feature Selection
  + Predicting Inpatient Length of Stay
    - Linear Regression, Decision Tree Regression, Random Forest Regression
* Business / Marketing Domains
  + ABC Grocery (Fictitious Grocery Chain)
    - Assessing Campaign Performance using Chi-Square
    - Compressing Feature Space for Classification Using PCA
    - Enhancing Customer Targeting Accuracy Using Classification Models
    - Predicting Customer Loyalty Using Regression Models
    - Quantifying Sales Uplift Using Causal Impact Analysis
    - Segmenting Customer Base Using K-Means Clustering
    - Understanding Alcohol Product Relationships with Association Rule Learning

## **education**

**Master of Science (2)**

Data Science | Maryville University | June 2022

Educational Leadership and Policy | Portland State University | Portland, OR | December 2010

**Bachelor of Science, Respiratory Therapy**

University of Missouri | Columbia, MO | December 2004

**Associate of Applied Science, Respiratory Therapy**

Northern Virginia Community College | Annandale, VA | May 2001

## **certifications & courses**

* Registered Respiratory Therapist (RRT)
* Technical Skills: Python, SQL (SQL Server & Oracle syntax), Tableau
* Epic Certifications: Caboodle Data Model, Caboodle Development, Clinical Data Model, Cognitive Computing Badge; Cogito Tools Administration, Healthy Planet Analytics and Clinical Build, HOD, Inpatient ClinDoc; Inpatient Orders, Radar SQL Metrics Badge; Revenue Data Model, Security Coordinator; SmartForms Administration; Stork
* Business Analyst Nanodegree | Udacity.com | December 2019