**Michael Murrietta**

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<https://github.com/murrietta>

**Data Scientist | Communicator**

I am a recent graduate of the Master of Science in Data Science program at Southern Methodist University with 5 years’ experience in analytics. My focus is to communicate analytical solutions to influence impactful changes. I enjoy helping others wherever I can, from building a classification model to fixing an old wooden fence.

**Skills:**

* **Interpersonal Skills:** Data analytics can be a catalyst for impactful changes but fails to be without proper communication. I speak English AND tech, enabling me to work with influencers to elaborate vision into well-specified solutions.
* **Statistics:** Thorough understanding of fundamental concepts and how to use them to understand business. A solid background in linear models and how to adapt this simple yet powerful model to many situations.
* **Machine Learning:** Experience with many models in many problem spaces: regression, classification, using many models from support vector machines to recurrent neural networks. Versed in the standards like train-test split, cross validation, data augmentation, feature engineering, metric selection, countermeasures, and others.
* **Programming:** I have spent much of my work and free time writing code for the past 6 years
  + **Python (5+ years)** at work, home, and school (numpy, scipy, sklearn, matplotlib, pandas, keras, tensorflow, spaCy, NLTK, PySpark, statstools, and other packages).
  + **Visual Basic** (**5+**) at work, and home. Mostly for automating Excel and Outlook. Has been a crucial help when working with more Excel oriented colleagues.
  + **R (3+)** and **SAS (2)** during grad school, at work, and at home. I favor R for statistical analyses.
  + **Matlab**/**Octave (2+)** and **Mathematica (2)** during undergrad and at home.
  + **Javascript (1.5)** combined with HTML and CSS for personal and academic projects.
  + **Others not listed:** I’ve used around a dozen different languages in some capacity before.
* **Scripting:** Using bash, cmd, powershell, or python. I can easily write scripts to call from the command line.
* **Data Tools:** SQL for 4 years, Apache Spark, and MongoDb for 1.5 years.
* **Cloud Computing:** Google Cloud Products (GCP) mostly but have also used Amazon Web Services (AWS).
* **Visualization:** Using D3.js, P5.js, Processing, Open Frameworks, Tableau, and PowerBI.
* **Medical Informatics:** Working with ICD 9/10, CPT codes for 4 years, HL7 data transfer protocol for 3 years.

**Accomplishments**

* Built data validation and integration pipeline using SQL and Python. Imports new data and identifies any suspicious values before incorporating in on-going analyses. Estimated saving of 0.13 FTEs.
* Saved an employer ~$90k/year by building an Ongoing Practitioner Performance Evaluation (OPPE) tool using existing software.
* Data warehouse development and deployment in a hospital organization to enable self-service analytics.
* Collaborated on a sepsis early warning system by developing a custom classification algorithm.
* Developed and deployed *C. difficile* risk calculator by adapting research paper results to a different population.
* Developed and deployed an analytics pipeline to accurately identify Ventilator Associated Events.

**Education**

* **Master of Science in Data Science:** Southern Methodist University (SMU)
* **Bachelor of Arts in Mathematics:** California State University Fresno (CSUF)

**Experience**

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| GE Healthcare Partners (GEHCP) | July 2018 to Present |
| Associate Consultant - Analytics, Full-time |  |
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| * Analytics support multiple workstreams | * Working with large datasets (~10GB) |
| * Build data-based tools for client use * ActionOI/Truven benchmarking for clinical partners | * Ad hoc analyses as needed * Migration and optimization of Excel-based tools to SQL to enable rapid assessments |
| Valley Children’s Hospital (VCH) | December 2016 to July 2018 |
| Clinical Decision Support Coordinator, Full-time | Infection Prevention Department |
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| * Analytical support of org-wide initiatives | * Collaborate on SQL Server data warehouse |
| * Automate data reporting structure in VB * Ad hoc analyses as needed | * Statistical support for clinical research * Support previously developed solution for OPPE |

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| Valley Children’s Hospital (VCH) | February 2016 to December 2016 |
| Data Analyst, Full-time | Quality and Performance Improvement |
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| * Consult on and develop solution for OPPE * Manage continuous improvement project | * Ad hoc analyses as needed * Collaborate on data warehouse development |

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| Valley Children’s Hospital (VCH) | November 2014 to February 2016 |
| System Support Specialist – Periop, Full-time | Perioperative Services Department |
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| * Automate regular reports using Excel and VBA * Creation of audit-aiding reports boosting productivity and accuracy of team | * Write SAP Crystal Reports and perform Ad hoc analyses as needed * Administrator for clinical endoscopy procedure software (Olympus Endoworks). |

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| California Casualty Management Company (CCMC) | September 2014 to November 2014 |
| Ratings and Statistical Analyst, Full-time | Actuarial Department |
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| * Competitive analysis on similar products * Maintenance and update of simulation models | * Simulation of overall price change effects using Excel and VBA |

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| Valley Children’s Hospital (VCH) | January 2012 to September 2014 |
| SPD Technician III, Full-time | Sterile Processing Department |
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| * Decontamination, packaging, sterilization, and storage of instruments * Allocate supplies for surgical case carts | * Sterilizer testing, cleaning and maintenance * Occasional acting team lead * Training new technicians. |