

# Michael Murrietta

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## 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.

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## 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, stattools, 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

GE Healthcare Partners (GEHCP) Associate Consultant - Analytics, Full-time	July 2018 to Present
<ul style="list-style-type: none"><li>● Analytics support multiple workstreams</li><li>● Build data-based tools for client use</li><li>● ActionOI/Truven benchmarking for clinical partners</li></ul>	<ul style="list-style-type: none"><li>● General database administration</li><li>● Ad hoc analyses as needed</li><li>● Migration and optimization of Excel-based tools to SQL to enable rapid assessments</li></ul>
Valley Children's Hospital (VCH) Clinical Decision Support Coordinator, Full-time	December 2016 to July 2018 Infection Prevention Department
<ul style="list-style-type: none"><li>● Analytical support of org-wide initiatives</li><li>● Automate data reporting structure in VB</li><li>● Ad hoc analyses as needed</li></ul>	<ul style="list-style-type: none"><li>● Collaborate on SQL Server data warehouse</li><li>● Statistical support for clinical research</li><li>● Support previously developed solution for OPPE</li></ul>
Valley Children's Hospital (VCH) Data Analyst, Full-time	February 2016 to December 2016 Quality and Performance Improvement
<ul style="list-style-type: none"><li>● Consult on and develop solution for OPPE</li><li>● Manage continuous improvement project</li></ul>	<ul style="list-style-type: none"><li>● Ad hoc analyses as needed</li><li>● Collaborate on data warehouse development</li></ul>
Valley Children's Hospital (VCH) System Support Specialist – Periop, Full-time	November 2014 to February 2016 Perioperative Services Department
<ul style="list-style-type: none"><li>● Automate regular reports using Excel and VBA</li><li>● Creation of audit-aiding reports boosting productivity and accuracy of team</li></ul>	<ul style="list-style-type: none"><li>● Write SAP Crystal Reports and perform Ad hoc analyses as needed</li><li>● Administrator for clinical endoscopy procedure software (Olympus Endoworks).</li></ul>
California Casualty Management Company (CCMC) Ratings and Statistical Analyst, Full-time	September 2014 to November 2014 Actuarial Department
<ul style="list-style-type: none"><li>● Competitive analysis on similar products</li><li>● Maintenance and update of simulation models</li></ul>	<ul style="list-style-type: none"><li>● Simulation of overall price change effects using Excel and VBA</li></ul>
Valley Children's Hospital (VCH) SPD Technician III, Full-time	January 2012 to September 2014 Sterile Processing Department
<ul style="list-style-type: none"><li>● Decontamination, packaging, sterilization, and storage of instruments</li><li>● Allocate supplies for surgical case carts</li></ul>	<ul style="list-style-type: none"><li>● Sterilizer testing, cleaning and maintenance</li><li>● Occasional acting team lead</li><li>● Training new technicians.</li></ul>