

Sean Conroy: Data Science Professional

address: Dallas, TX 75228

[Github Profile](#)

phone: 412-855-7246

[StackOverflow Profile](#)

email: seantconroy@gmail.com

[Website / Portfolio](#)

overview

Strong analytics, data science, engineering & manufacturing background and 7 years of experience writing code in production and research environments. Known for capacity to quickly gain mastery of a subject and build analytical tools to support top decision makers.

key skills: automated analytics using R, machine learning, algorithm development, BI template development, translating engineering & scientific algorithms into R / Python workflows, design + build analytics tools

coding: R, Python, VBA, SQL, HTML, JavaScript, Matlab, Shiny

platforms: RStudio, Anaconda / Spyder, SQL Server, Spotfire, Jupyter, Data Robot, GitHub, Atom, Access, Excel

Python libraries: scikit-learn, TensorFlow / Keras, pandas, numpy, pyplot

R libraries: Shiny, data.table, tidyverse (dplyr, ggplot2, tidyr), doperparallel, caret

machine learning / data science:

- **Coursera:**
 - [Neural Networks and Deep Learning with Andrew Ng, deeplearning.ai](#)
 - [Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization](#)
 - [Structuring Machine Learning Projects](#)
 - [Data Science Specialization with R, Johns Hopkins](#)
 - [Bayesian Statistics: From Concept to Data Analysis](#)
 - [Getting Started with AWS Machine Learning](#)
- [Deep Learning Bootcamp](#) (week-long intensive on neural networks using TensorFlow / Keras)
- Experience with Neural Networks, XGBoost, SVM, and other scikit-learn algorithms
- GitHub: Owner/Maintainer of current organization's Corporate GitHub account
 - ~350+ contributions to current org's repositories in the last year
- [Statistical Process Control](#) (week-long training at Univ. Tennessee Statistics Dept.)
- ONLC Training Classes: [Python for Data Science](#) (Dec, 2018), [Introduction to SQL Server](#), (Feb, 2020)

experience

Comstock Resources (Oil & Gas E&P)

January 2018 – current

Data Analyst, Business Development Team

Principal developer for a team that created analytical tools for the Business Development, Operations and Finance departments using R, Python, SQL and Spotfire:

- Deployed multiple machine learning models to predict wells reaching line pressure / undergoing "roll-over"
 - Ensemble models using Tensor Flow Neural Nets + XGBoost trained on custom-built train set
 - Nightly predictions being used by reservoir engineers
- Built machine learning model in R / Python to predict Haynesville gas well performance
 - Included over 100 engineered features, (geology, well design, spacing and completion parameters)
 - Automated data preprocessing, encoding, and model hyperparameter tuning
 - Created ML models for Clustering, Classification & Regression using XGBoost + DBSCAN
- Automated Time Series Forecasting of Gas Wells (Decline Curve Analysis):
 - **Deliverable:** Spotfire template for automated forecasting of oil & gas wells
 - Custom algorithms for noise removal, data segmentation, and forecasting
 - Non-linear regression, parallel processing, ~ 5000 lines of code, 7 libraries built

- Pressure Normalized Rate (PNR) Forecasting with Aries Comparison:
 - **Deliverable:** Spotfire template that is now widely used by organization's engineers and analysts
 - Iterative calculation of Bottom Hole Pressure using complex petroleum engineering models
 - Functionality to load, translate, plot, and adjust "Aries"-style forecasts
- (Pason Drilling Analytics) Automated Analysis of 10-second Drilling Data:
 - Multi-step workflow for cleaning data, automated joins, detecting rig-states, and analyzing data for automated KPI analysis

Diab Americas (Aerospace Foam Manufacturing & Analytics)

June 2016 – January 2018

Process Engineer

- Built and deployed several interactive databases + dashboards using (MS Access / SQL / VBA) for Production Management, Laboratory Management, Quality and Inventory Control
- Built numerous analytical tools w/ "dashboards" for automated data processing / report generation
- Process Engineer for 4 product lines (provided in-depth engineering analysis of extrusion data)

Poly-America (Blown Film Manufacturing Analytics)

February 2013 – May 2016

Assistant Laboratory Manager

- Regularly perform extensive statistical analysis for internal corporate sales & marketing clients
- Develop numerous VBA automation tools / "dashboards" / lab software
- Completed Projects:
 - (R) Process Variation analysis tool: used to analyze years of 24/7 production data
 - (R) Production/QC/Lab Data System Aggregation: product-based datasets for analysis
 - (VBA) Materials Traceability Solution: provided complete traceability for two mfg. locations consuming over 1 billion lbs. of polyethylene per year
 - (VBA): Automated Film Statistics Toolbox; ANOVA-style analysis for arbitrary datasets
 - (VBA): Lab Information Management System; enable sample tracing and data analysis for all testing data throughout the laboratory

Natural Composites (Material Science Startup)

August 2011 – February 2013

Research and Development Engineer

- Among many other hats, oversaw quality control process for all raw materials:
 - (MATLAB): Automated Fiber Length Measurement: length distribution by image analysis
 - (MATLAB): Quality Control Image Analysis: solution for evaluating raw material quality

Antioch Ministries International, Kurdistan, Iraq

September 2007 – August 2008

Missionary / English Professor, Koya University

Sandia National Laboratories, Livermore, CA

May 2005-August 2007

Research Intern, DOE Q Clearance

- Modeling, simulation, and algorithm development
 - (MATLAB): Mid-Fidelity Physics Simulation of Radioactive Isotopes at a Border Crossing
 - (MATLAB) Automated Isotope Classification Package using Wavelets

(Education)

— **Masters of Engineering**

- GPA: 3.66

Baylor University

Graduated 2011

— **Bachelor of Science, Physics**

- GPA 3.22

Carnegie Mellon University

Graduated with honors, 2007