# Kevin Lorenzo Ayala

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## EDUCATION

**University of California, Santa Barbara** *Class of 2019*

**B.S. Statistical Science, Department of Statistics and Applied Probability**

- *Relevant Coursework:* Principles of Data Science, Statistical Machine Learning, Advanced Statistical Models, Mathematical Statistics, Survival Analysis, Time Series, Design of Experiments

## EXPERIENCE

**Molina Healthcare Company, Data Analyst** *Sept. 2020 – Present*

- Programmed in-house XML script using python for monthly Office of Inspector General reporting requirements, eliminating outside vendor and saving $65,000 in outside vendor fees.
- Created dashboards in PowerBI for production monitoring of about $60 million dollars for senior leadership at the C-level, as well for compliance department.
- Developed new procedures in utilizing statistical random sampling for auditing, investigations, and medical record reviews; helping to decrease review times and increasing turnover in production workflows.
- Established new pharmacy prescription analytics by flagging cases of opiod overprescription using Morphine Equivalent Doses as a benchmark.
- Responsible for ad-hoc reporting on Data Analytics team daily mailbox; Used SQL, Excel, Python, and R to automate excel reporting within 250 ad hoc requests.

**Visualizing the Coronavirus Pandemic** *April 2020 – Jun. 2020*

**Visualization Project, R Programming** .

- Visualized confirmed cases in each US state on a logarithmic scale, updated frequently with new confirmed cases from data pulling John Hopkins University open Covid-19 dataset.
- Compared and contrasted China pandemic data against rest of the world, and graphically annotated important landmark dates such as global health emergency declared, China declaring change in data, and WHO declaring the world pandemic.

**Human Activity Recognition from Smartphones** *Jan. 2019 – Mar. 2019*

**Big Data Analytics, Python with Spark/Pyspark Programming**

- Built champion machine learning model that predicted between 3 static movements and 3 dynamic movements, correctly predicting with 97% accuracy with ridge regression and effectively saving teammates 10 hours on model building.
    - Other models used were random forest (rf), rf with 10 principle components, and one vs rest logistic.
    - Insights gleaned from this model indicated grouped gravity and acceleration variables had a 91% significance when predicting position.
- Succesfully established pipeline for hyperparameter tuning to find best model by tuning elastic net, regparam, and maxiter parameters from a multinomial logistic model, improving baseline training accuracy from 53% to 98%.
- Maximized teamwork efficiency by utilizing git for version control and sharing code with teammates, making it 80% easier for teammates to upload, edit, and review other team members code.

**Machine Learning and the 2016 Election** *Sept. 2018 – Dec. 2018*

**Statistical Machine Learning, R Programming**

- Utilized Machine Learning (ML) to explore the 2016 election using ML models such as decision trees, logistic-lasso regression, hierarchical clustering amongst other models.
    - Discovered transit activity to be the most significant variable within the 2010 census data.
- Assisted teammate on creative component with bayesian prior, feature engineered census data at a county level and created adaboosted bayesian decision tree, predicting county winners with 86% accuracy.
- Wrangled census data and visualized state/county data with ggplot2 by using federal information processing standards.

## SPECIALIZED SKILLS & OTHERS

- *Program Languages*: R, Python with Spark, LaTeX, SAS
- *Technologies*: Apache Spark, Spark SQL, Git, Github, Jupyter Notebook, R Studio, R Markdown
- *R Libraries:* dbplyr, survival, KMsurv, MCMCpack, glmnet, ROCR, ggmap, NbClust, class, gmb, MASS
- *PySpark Libraries*: ML, Vectorassembler, Standard Scaler, PCA, Kmeans, Pipeline, SQLContext, Pandas
- *Certifications*: Introduction to SQL, Intermediate SQL, Introduction to Tableau
- *Languages*: Native in English, Native in Spanish