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To whom it may concern,

I am pleased to submit my application for the opening of Data Scientist at the County of Los Angeles. This position is of great interest due to the County of Los Angeles' mission to create a data-driven design for programs in the county. I believe my skills in statistical and machine learning methods, data visualization, and experimental design, along with my willingness to learn can be beneficial to the County of Los Angeles' mission goals.

Aligned with the responsibilities of the position, I have expertise in conducting inferential statistics and machine learning methods using R and Python. I have several years of experience conducting inferential statistics, including methods such as structural equation modeling and mixed-effect modeling. I have used inferential statistics to answer research questions about psychometrics of measures, adolescent and adult health behaviors, food access in rural Oregon, and other topics through published peer-reviewed journals and poster and paper presentations at regional and national conferences. Through these mediums, I have used inferential statistics to discuss the relevance and potential implications of findings to audiences of academics and practitioners. While being predominately trained in inferential statistics, I have sought out courses and a specialization in data science to learn more about machine learning. Through these data science courses, I have learned data wrangling, data visualization, dashboard and report creation, and machine learning algorithms in R; however during my personal time I have been teaching myself these topics in Python. I have used competitions, like Kaggle, to practice these skills in both languages and am constantly researching more about machine learning through books and online resources.

My expertise in these techniques also translate to my teaching and mentoring experiences. Over the past year, I have been teaching inferential statistics to undergraduate students. There, I have advanced the program curriculum by incorporating R rather than solely SPSS. In addition to teaching inferential statistics, I taught experimental design to students. In this course, I taught students how to create an ethical research study by creating a true experiment using other university undergraduate students. Topics included whether their research question would be best answered using a between- or within-subjects design, how to conduct their own analyses, and how to construct a written report of their findings.

In addition to my experiences using R and Python for modeling purposes, I have advanced competency using R for the past 4 years to create visualizations of analytic findings using dashboards and reproducible reports. In collaboration with the Vice Provost of University of Oregon's Graduate School, I created a dashboard to created growth models examining if increasing graduate teaching employees as instructors increased undergraduate student success. The dashboard included summarized analyses and visualizations exemplifying the relationship. Additionally, I have sought out resources to teach myself SQL for database management by downloading MySQL; however, I am enthusiastic about utilizing concepts I have learned with real SQL databases and learning more complex queries.

I believe I can be a great asset to the County of Los Angeles with my skills and expertise in inferential statistics and machine learning, while learning more about utilizing these techniques within a business environment. This opportunity will augment my current experience, knowledge, and skills through learning how to use these skills to promote growth of the County of Los Angeles. Thank you for your consideration.

skills

data visualization

relevant sources of data for use cases

statistics

machine learning

experimental design

surveys

policy makers

dashboards

Best regards,

Jonathan A. Pedroza (JP), PhD