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Dear MemorialCare,

I am pleased to submit my application for the opening of *Senior Healthcare Information Analyst* at MemorialCare. This position is of great interest due to MemorialCare's mission to provide high-quality care that is accessible and affordable. I believe my skills in statistics, machine learning, and data visualization, along with my willingness to learn can be beneficial to MemorialCare's mission goals.

Aligned with the responsibilities of the position, I have advanced competency using R for the past 4 years for inferential statistics and machine learning. 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. For instance, I have been learning about forecasting models using R; a practice not used often in behavioral research.

My expertise in these techniques also translate to my teaching and mentoring experiences. Over the past year, I have been teaching inferential statistics and experimental design. There, I have advanced the program curriculum by incorporating R rather than solely SPSS. In this course, I taught students the importance of ethics in conducting statistics and developing a true experiment. Students also learned how to create feasible research questions and hypotheses, utilize psychological theories, conduct comprehensive literature reviews, create a confidential survey using Qualtrics, conduct analyses appropriate for their experimental design, write a report of their findings, and prepare a presentation about their experiments for an academic conference.

In addition to my experiences using R and Python for modeling purposes, I have advanced competency using R for to create visualizations of analytic findings using dashboards and reproducible reports. Currently, as a Data Science Academy Mentor for RStudio I have been working with industry professionals to learn skills in data visualization, data manipulation, modeling techniques, and how to create reports using R. Outside of any role I have held, I seek out opportunities to practice and learn new skills. For instance, during my graduate studies, I collaborated with the Vice Provost of University of Oregon's Graduate School and developed a dashboard using growth models to examine if increasing graduate teaching employees as instructors increased undergraduate student success. To practice creating interactive dashboards, I gathered exit data for graduating graduate students and created a shiny app on the effectiveness and inclusivity of their respective programs. I'm also currently working on a shiny app to show the influence of overfitting a model to training data. Additionally, I have sought out resources to teach myself SQL for database management and cloud services, such as Google Cloud Platform; however, I am enthusiastic about utilizing concepts I have learned with more complex queries.

With a background in academia, I am likely to be quite different from other applicants. I believe I can be a great asset to MemorialCare 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 MemorialCare. Thank you for your consideration.

Best regards,

Jonathan A. Pedroza (JP), PhD