Michael Joseph Espero

Data Scientist · Statistician · Epidemiologist

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Skills

Research from design, foundational construct exploration, and ethical data collection - to analysis, and writing. From database (SQL) to wrangling (Apache Arrow, Polars, dplyr), and visualization (ggplot2, plotly), to interactive web tools (R Shiny) and presentation. Machine learning (Spark, boosting, neural networks) from problem & operations assessment to system architecture, incremental training, evaluation, probabilistic forecasting, and explainable regressors, classifiers, and predictions. Statistical and causal modeling (mixed effects, structural equations) from DAG to specification, fitting, evaluation, and inference. AI feature engineering and agentic deployments.

Experience

- **Senior Data Scientist** - Centene. April 2022 - May 2025. Designed and developed RWD/RWE machine learning, evaluation, and probabilistic forecasting (claims spend, utilization, and marketwide membership) for every plan and every medical department of care (i.e. oncology, cardiology, neurology, etc) in every status (outpatient, inpatient, emergency, etc) in California. Improved forecast accuracy by millions of dollars a month. Developed interactive R Shiny web applications updated daily, cutting processing time to less than 1/4 previous.
- **Epidemiologist** - Los Angeles (LA) County Department of Public Health. October 2020 - April 2022. Led the Outbreak Management SQL Server Team. Developed and orchestrated complex, reproducible reports 7 days a week using R, SAS, and SQL. Developed de-identified data wrangling pipelines for all LA County Schools during a public health emergency.
- **Researcher** - Claremont Graduate University (CGU) Global Pandemic Simulation.
- **Researcher** - CGU Human Genetics & Dementia.
- **Graduate Teaching Assistant** - CGU Trandisciplinary Studies Data Science.
- **Graduate Teaching Assistant** - CGU Public Health Advanced Statistical Methods.
- **Support** - Pomona College High Performance Computing & Supercomputer Network.
- **Researcher** - CGU Public Health, Breast Cancer & Chemobrain.
- **Researcher** - CGU Human Working Memory Lab.
- **SEO/Marketing Analyst** - GoodSearch.com. 2014.

Education

2016 – 2020 **Ph.D.*** in Health Promotion — School of Community & Global Health, Claremont CA

*Completed all coursework (2020) covering (2) PhD programs (Applied Cognitive Science and Neurocognitive Sciences) as a James Blaisdell Fellow. Tool Milestone: Data Science (2019)

2016 – 2019 **Masters** in Public Health — School of Community & Global Health, Claremont CA

Emphasis in Biostatistics & Epidemiology

Certificates: Machine Learning Scientist (26'), R Data Scientist (17') & Statistician (20') DataCamp

Bootcamp on Artificial Intelligence (19') — Kinestry

2008 – 2010 **Bachelors** in Global Studies - McNair Scholar — San Jose State University, San Jose CA