Cedric Vicera

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Education

University of Pennsylvania Expected May 2023

Master's in Computer Science (MCIT)

- Coursework: Artificial Intelligence, Artificial Intelligence for Health and Medicine, Neural Networks, Statistics for Data Science

University of Arizona May 2020

B.A. in Philosophy (with Honors)

Technical Skills

Languages Python, R, SQL, Java
Technologies pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, dplyr, ggplot2, R Markdown
Tools Git, Jupyter, PyCharm, RStudio

Professional Experience

Teaching Assistant Jan 2021 – Present

University of Pennsylvania *Remote*

- CIT 591: Introduction to Software Development
- Conduct office hours and recitations to help and support students in the course.

Biostatistics Research Intern May 2021 – Jul 2021

St. Jude Children's Research Hospital *Remote*

- Wrangled pediatric oncology patient health records to visualize several average temporal trends in patient BMI based on presence vs. absence of bacteria species pair.
- Implemented a linear mixed-effects model in R to identify 3 bacteria species pairs correlated with elevated post-treatment BMI.
- Conducted hypothesis testing and presented results in a research seminar and wrote a manuscript, compiled in R Markdown, detailing project methods and discussion.

Research Assistant Aug 2018 – May 2020

University of Arizona College of Engineering *Tucson, AZ*

- Wrote scripts in Python/pandas and R to extract critical care telemedicine data to analyze failure rates and temporal differences between noninvasive ventilation strategies of 10K+ patients.
- Generated Sankey diagrams to visualize 9 patient subgroup outcomes.
- Applied logistic regression to show that NIPPV patients have an increase of 16.8% in mortality compared to HFNI patients, who carry a 6.6% increase in mortality.

Projects

COVID-19 Risk Factor Predictor | *Python, Flask, HTML/CSS/JavaScript, Git* Jan 2021

- Developed a full-stack web application to display an analysis of identified COVID-19 risk factors for a user.
- Implemented front-end and back-end services using Flask/Python in conjunction with HTML/CSS/JavaScript.
- Conducted data analysis in Python/pandas by leveraging CDC COVID-19 Public Data to compute user results.

Publications

P. Essay, **C. Vicera**, J. Mosier, V. Subbian. Analysis of Acute Respiratory Failure Patient Noninvasive Ventilation Therapy. *American Thoracic Society International Conference*. 2020.

C. Vicera. Persona Identification in Tele-ICU Data of Mechanically Ventilated Patients. *UROC Abstract Review*. 2019.

Presentations

The Effect of the Gut Microbiome on Obesity in Survivors of Childhood Cancer Jul 2021

- *POE Lunch & Learn Series* - St. Jude Children's Research Hospital

Phenotyping of Mechanically Ventilated Patients in the ICU Aug 2019

- *UROC Summer Colloquium* - University of Arizona