Cedric Vicera

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Education

University of Pennsylvania Expected May 2023
Master of Computer and Information Technology

University of Arizona May 2020
Bachelor of Arts in Philosophy (with Honors)

Skills

Languages Python, R, Java, SQL

Technologies pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, dplyr, ggplot2, R Markdown, Git, Jupyter

Experience

University of Pennsylvania Nov 2021 – Present
Research Assistant · Computational Social Science Lab

- Task implementation (Empirica) for high-throughput experiments on group dynamics.

St. Jude Children's Research Hospital May 2021 – Jul 2021
Biostatistics Research Intern

- Wrangled pediatric oncology patient health records to visualize several average temporal trends in patient BMI based on presence versus absence of bacteria species pair.
- Implemented a linear mixed-effects model (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 (R Markdown) detailing project methods and discussion.

University of Arizona College of Engineering Aug 2018 – May 2020
Research Assistant · Computational Medicine and Informatics Collaboratory

- Wrote scripts (Python/pandas) to extract critical care telemedicine data to analyze failure rates and temporal differences between noninvasive ventilation strategies of 10K+ patients.
- Identified patient personas and generated Sankey diagrams to visualize 9 patient subgroup outcomes.
- Applied logistic regression (R) 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, pandas), HTML/CSS* cedricvicera/CovidRFP

- Developed a full-stack web application to display an analysis of identified COVID-19 risk factors for a user.
- Implemented front-end (HTML/CSS) and back-end services (Python/Flask).
- Conducted data analysis (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.