

Cedric Vicera

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TECHNICAL SKILLS

Languages Python, R, SQL, Java, C, HTML, \LaTeX

Technologies pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, dplyr, ggplot2

Tools Git, Jupyter, PyCharm, RStudio

PROFESSIONAL EXPERIENCE

St. Jude Children's Research Hospital

May 2021 – July 2021

Biostatistics Research Intern

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.
- Presented results in a research seminar and wrote a draft manuscript detailing project methods and discussion.

Computational Medicine and Informatics Collaboratory

Aug 2018 – May 2020

Research Assistant

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.

EDUCATION

University of Pennsylvania

Expected May 2023

Master's in Computer Science (MCIT)

University of Arizona

May 2020

B.A. in Philosophy with Honors

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 Case Surveillance Public Use 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

July 2021

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

Phenotyping of Mechanically Ventilated Patients in the ICU

August 2019

- *UROC Summer Colloquium* - University of Arizona

Persona Identification in Tele-ICU Data of Mechanically Ventilated Patients (Poster)

August 2019

- *24th Annual UROC Research Conference* - University of Arizona