

Cedric Vicera

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TECHNICAL SKILLS

Languages Python, R, Java, C, HTML, \LaTeX
Technologies pandas, NumPy, scikit-learn, Matplotlib, Seaborn
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 2022
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