

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

Penn Engineering Online

Jan 2021 – Present

Graduate Teaching Assistant

Remote

- CIT 591: Introduction to Software Development — Spring 2021, Fall 2021.

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.
- Conducted hypothesis testing and presented results in a research seminar and wrote a manuscript, compiled in R Markdown, detailing project methods and discussion.

University of Arizona College of Engineering

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.

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