Cedric Vicera

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Education

University of Pennsylvania Expected May 2022
Master's in Computer Science (MCIT)

University of Arizona May 2020
B.A. in Philosophy with Honors

Research Experience

St. Jude Children's Research Hospital May 2021 – Present
Research Intern *Remote*

- Investigating biostatistics and data science methods for improving patient outcomes in pediatric oncology.
- Selected participant in the Pediatric Oncology Education (POE) program which helps students gain biomedical and oncology research experience.

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 noninvasive ventilation failure rates and temporal differences between noninvasive strategies of 10K+ patients.
- Visualized 9 patient subgroup outcomes by generating Sankey diagrams.
- Applied logistic regression to show that mortality rates for failure are disproportionately higher for NIPPV patients with an increase of 16.8% in mortality compared to HFNI patients, which carry a 6.6% increase in mortality.

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

TBD 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

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.

Technical Skills

Languages Python, R, SQL, Java, C, HTML, LaTeX
Libraries pandas, NumPy, Matplotlib, Seaborn
Tools/Technologies Git, Jupyter

Teaching Experience

University of Pennsylvania Jan 2021 – May 2021
Teaching Assistant *Remote*

- Course: Introduction to Software Development
- Taught introductory programming in Python/Java.
- Responsible for hosting office hours, grading assignments, and maintaining discussion board.

University of Arizona Aug 2018 – May 2020
Head Teaching Assistant *Tucson, AZ*

- Courses: Dealing with Data, Computational Thinking and Doing
- Taught introductory programming and data science in Python/SQL.
- Responsible for hosting office hours, grading assignments, and holding weekly discussion sections.
- Led and mentored a team of 4 teaching assistants.

Awards & Scholarships

Magellan Circle Scholarship 2019

- $1,000 competitive merit scholarship for students enrolled in the College of Social & Behavioral Sciences.

UROC Summer Research Institute Stipend 2019

- $4,000 research stipend for participants of the UROC Summer Research Institute.
- This stipend funded research conducted in the Computational Medicine and Informatics Collaboratory.

H.J. & Signe Bonnevie Scholarship (2x) 2018 – 2019

- $1,000 competitive merit scholarship for students enrolled in the College of Science.
- Awarded twice.

Laura and Arch Brown Scholarship 2018

- $500 competitive merit scholarship for students enrolled in the Honors College.

Professional Development

UROC Summer Research Institute Summer 2019

- Attended a fully funded summer program for underrepresented students interested in research and graduate education organized by the University of Arizona Graduate College.