

ISAAC MENCHACA

1254 N. Berkeley Ave, San Bernardino
(909)258-0008 ◊ imenc001@ucr.edu

EDUCATION

University of California, Riverside

B.S. Bioengineering

Additional Courses: Machine Organization and Assembly Language, Object-Oriented Programming, and Data Structures and Algorithms.

TECHNICAL STRENGTHS

- **Programming and Version-Control:** Python, C++, Swift, Matlab, Shell-scripting/ Unix, Git
- **Data Collection, Merging, and Cleaning:** RDMS, SQLAlchemy / ipython-sql, Pandas, Numpy
- **Exploratory Data Analysis, Machine Learning:** Scikit-learn, Scipy, Statsmodels
- **Data Visualization:** Seaborn, Matplotlib, Plotly

EXPERIENCE

Cognitive and Neural Computation Lab

June 2019 - Present

Research Assistant — PI: Dr. Megan Peters

- HIPAA/ CITI certified. Responsible for recruitment and maintenance of research participant forms (Subject Eligibility Criteria, MRI Screening, Research Informed Consent, and Research Participant Rights).
- Maintained strong documentation skills of project data and analysis using dedicated directories and git-version control.
- Responsible for collection of behavioral, EEG, and fMRI data. (Psychtoolbox, psychoPy).
- Documented a preprocessing protocol and pipeline to clean and format pupillometry, EEG, and fMRI , and analyze EEG and fMRI data. (Matlab: EEGLAB, ET Artifact removal, SPM; Python: Jupyter Notebooks, Scikit-Learn, Nipype, Numpy, Scipy, Matplotlib/ Seaborn, Pandas; Other: FSL).

Chrono-Biological Alarm Clock

October 2018 - May 2019

Senior Capstone Project

- Designed a system that prevents users from waking up during slow wave sleep (SWS), a factor of preventing morning grogginess.
- Wrote an IRB for approval of human subject experimentation, and designed a working prototype with a budget of \$1000 (only \$150 used).
- Set a Bluetooth connection with consumer-grade EEG and self-made iOS app to receive real-time microvolt data, and programmed an iOS app to undergo real-time power spectral analysis. (Analyzed with Python, designed with Swift, Objective-C).
- Gave poster presentation of system to Bioengineering faculty and peers. Top project by faculty.

Citrus Clonal Protection Program

October 2015 - May 2019

Diagnostics Assistant — PI: Dr. Georgios Vidalakis

- Assist in disease diagnostics to introduce, investigate, and maintain the safe mechanism of citrus varieties into California with accordance to state (CDFA) and federal policies (USDA).
- Undergo general duties including: lab clean-up, autoclave, assistant training, creating labels, retrieving samples, and preparation of chemical solutions and diagnostic samples.
- Perform total nucleic acid extraction, purification, quantitation, and PCR/ qPCR (SYBR Green and Taqman assays) for viroid/ pathogen detection.
- Organize and selectively collect queried sequence data from BLAST database using Unix, Cyberduck, and UCR's SSH cluster system.