RAYMOND JAVIER DUEÑAS
Curriculum Vitae

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EDUCATION

Aug. 2019 – Current	**California State University Stanislaus** **College of Science** Candidate Dual Major B.S. Mathematics and Computer Science | GPA 4.00
Summer 2017	**Merced Community College** Transfer Credit Program
Spring 2017	**Modesto Jr. College** Transfer Credit Program

RESEARCH EXPERIENCE

June 2022 – Present

Summer REU Under Dr. Adham Atyabi, University of Colorado Colorado Spring's

At the University of Colorado Colorado Spring's deep learning REU I researched autonomous flight and obstacle avoidance in drones utilizing deep learning, computer vision, and a monocular camera. Attempting to develop competitive autonomous flight utilizing optical flow, our work involved developing data sets, flight control algorithms utilizing deep learning and conducting multiple presentations. I read, studied, and followed numerous tutorials spending many nights in the lab trying to move my project forward. I am determined to see this project through and have continued work on this project to date. Dr. Atyabi and I have transitioned from physical drones to virtual ones utilizing AirSim to conduct our simulations as we continue to work toward an IEEE Transactions on Robotics and Automation publication of our work.

Jan. 2022 – Present

***Undergraduate Student Researcher Dr. Kyu Han Koh's Innovative Learning and Design Lablab* (CSU Stan)**

As a member of Dr. Koh's research lab, my current project utilizes computer vision to uniquely develop a climate data set to be analyzed and visualized. The intention is to develop a model that will make climate change predictions by employing machine learning on the developed data set in order to provide further evidence of climate change. I am scheduled to present this research at a capstone conference in the Spring, and I am submitting to present this work at the Computer Science Conference for CSU Undergraduates, also being held in the spring.

Fall Semester 2021	***Undergraduate Student Researcher Under Dr. Yanhong Wu* (CSU Stan)**

In the Fall of 2021, I was sponsored by Dr. Yanhong Wu, who was very invested in his advising, meeting once a week and providing materials to increase my understanding of the software and methods utilized for conducting Operations Research and Sequential Data Analysis. Our research analyzed the weekly mortality rate of LA county from 1970 to 1979 due to circular vascular complications. We found two important results. First, we found a better model fitting by using the change-point model instead of the linear trend model by treating temperature and pollution in LA county as covariates, and the improvement was quite significant. Second, the time series analysis of the residuals shows that an autoregressive model dependent on the previous two observations provides a quite satisfactory fitting for the errors and can yield better predictions. All the computations were carried out in R. In the final report that I wrote for this project, we included the source code, access to data, and outputs for the duplicability of our methods.

HONORS & AWARDS

Aug. 2022	**CSU – LSAMP PROUD Scholar – Outstanding Academic Performance**
Aug. 2022	**CSU – LSAMP PROUD Scholar – Outstanding Service**
Jan. 2022 – Present	**McNair Scholar**
Aug. 2021 – Present	**Cal-Bridge Scholar**
Jan. 2020 – Present	**Louis Stokes Alliances for Minority Participation (LSAMP) Scholar**
Aug. 2020 – May 2022	**Math Club President**
Jan. 2019 – Present	**Deans List**

POSTER PRESENTATIONS

1. Dueñas Javier, Raymond. (2022) "Artificial Intelligence Capacity to Re-Phrase Complex Language—Increasing Interdisciplinary Comprehension" Capstone Conference, California State University Stanislaus, Zoom. (This was a research proposal poster presentation after further review the project was deemed out of scope for timeline and not executed)