

Emi Cervantes

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SUMMARY

Student at the University of California, Irvine pursuing a Bachelor of Science in Mathematics, Data Science emphasis; expected to graduate in Fall 2024 with Statistics minor and department honors.

EDUCATION

University of California, Irvine

June 2020 - June 2024

B.S. Mathematics (Department Honors)

Minor in Statistics

Relevant Coursework: Calculus II, Multivariable Calculus I/II, Real Analysis, Linear Algebra, Numerical Analysis, Optimization, Statistics and Probability, Statistical Computing, Artificial Intelligence

RESEARCH EXPERIENCE

Science of Learning Lab — UCI School of Education

Jan 2023 - Dec 2023

Research Fellow

PI: Lindsey Richland Ph.D., June Ahn Ph.D., Fernando Rodriguez Ph.D.

Research Summary: Gender differences in the impact of worked examples on mitigating the effects of math anxiety. The study involved 280 fifth-graders from ten schools in Orange County and Chicago, aiming to discover if worked examples can equally alleviate math anxiety's impact on math performance for all students. Employing a pre-post design experiment, structural equation models were implemented to evaluate the gender-specific effects of worked examples using R packages.

Indepedent Research — UCI Department of Mathematics

Sep 2022 - Present

Student Researcher

PI: Anna Ma, Ph.D.

Research Summary:

Fleischman Lab — UCI School of Medicine

Jan 2022 - Aug 2022

Student Researcher

PI: Angela Fleischman Ph.D., M.D., Babak Shahbaba Ph.D., Sam Behseta Ph.D., Mine Dogucu Ph.D., Jessica Jaynes Ph.D., Roberto Pelayo Ph.D., Alma Castro

Research Summary: Impacts of Mediterranean diets on the symptoms of myeloproliferative neoplasms(MPN), a blood cell cancer. The study was a clinical trial study assessing the symptoms of patients in the Mediterranean diet group and the DASH diet group. Statistical analysis employed linear mixed modeling with R software to determine the effectiveness of Mediterranean diets in improving MPN symptoms.

Independent Research — UCI Department of Mathematics

Mar 2023 - Jun 2022

Student Researcher

PI: Anthony Zamora, Natalia Komarova Ph.D.

Research Summary: Cancer cell and development of resistance during adaptive therapy. Population growth ODE models were implemented to model the population growths of both susceptible and resistant tumor cells, under different therapy conditions. The models were tested and optimized by creating a simulation app with Python.

PROJECTS

Anime Genre Predictor and Recommendation Engine

[Code](#) 

Data Science project using Python and Streamlit library to analyze trends in anime. Wrote and trained a model using Python's Scikit-learn LogisticRegression to predict anime genres from reviews and airing time. Anime recommendation was constructed with cosine similarity algorithm.

PUBLICATIONS

Manuscripts in Prep

Emi, Cervantes (n.d.). "Gender Differences in the Impact of Worked Examples on Reducing Math Anxiety". In: ().

SELECTED TALKS AND PRESENTATIONS

Talks

Poster Presentations

1. **Cervantes E**, Ma S, Effectiveness of Worked Examples on Reducing Math Anxiety;
 - 6th Annual Working Memory and Plasticity Lab Symposium; June 2023, Irvine CA.
 - 36th Annual Undergraduate Research Symposium; May 2023, Irvine CA.
2. **Cervantes E**, Davityan M, Halabi A, Truong J, Wu M, Impact of Mediterranean and DASH Diets on MPN Symptoms;
 - Project RAISE Summer Research Symposium; August 2022, Fullerton, CA.
 - SoCal Data Science Fellowship Symposium; August 2022, Irvine, CA.

INVOLVEMENTS

Data @ UCI — UC Irvine

Feb 2022 - Present

Executive Vice President

Jun 2023 - Present

- Growing UC Irvine's first organization of data enthusiasts to 600+ members in three quarters
- Facilitating meetings with corporate and university executives to discuss potential partnerships and collaborations
- Gave technical workshops on building data visualizations with R

Vice President of Logistics

Feb 2022 - Jun 2023

- Coordinated all aspects of event logistics including venue selection and vendor management
- Planned UC Irvine's first inaugural Datathon: reached out to sponsors to establish partnerships and managed all logistics aspects for smooth operation
- Gave technical workshops on building data visualizations with R

Undergraduate Mathematics Committee — UC Irvine

Jun 2023 - Present

Co-founder, President

- Co-founded the organization to create expand and foster a welcoming community for undergraduate math majors at UC Irvine
- Overseeing all activities and discussions that occur in the executive board, and ensuring effective decision-making

Faces in Mathematics — UC Irvine

Feb 2022 - Present

External Vice President

Jun 2023 - Present

- Coordinated and directed the planning of the Faces in Mathematics Industry Conference
- Managed study room for members and hosted workshops to support lower-division students in mathematics construct their four-year college plan

Director of Professional Development

Feb 2022 - Jun 2023

- Initiated and executed the first inaugural Faces in Mathematics conference at UC Irvine
- Established and maintained connections with industry and graduate school speakers, inviting them to conferences and general meetings

TEACHING EXPERIENCE

Classroom Leader, Mentor — Math CEO

Jun 2022 - Present

- Instructing math topics and classroom activities for Math CEO sessions, an after-school math tutoring program for underserved communities in Orange County, CA
- Developing and implementing weekly lesson plans, incorporating math concepts and their relevance to social justice issues, and facilitating active discussion in the classroom

Learning Assistant — UC Irvine

Jun 2022 - Present

- Mentoring undergraduate student mentors on curriculum planning and pedagogical tactics for Math 192 (Studies in the Learning and Teaching of Secondary Mathematics)
- Maintaining regular communication with program directors and co-learning assistants, providing detailed reports on each lesson, and offering recommendations for future activities

AWARDS AND FELLOWSHIPS

Sep 2020 - Jun 2023	Dean's Honor List (9 quarters)
Dec 2022 - Present	Department of Mathematics Honors Program
Jun 2023	6th Annual Working Memory and Plasticity Symposium Judges Award (Best Presentation)
Jun 2023 - Dec 2023	Career Pathways for Research in Learning, Education, Analytics, and Data Science (CP-LEADS) Fellowship
Jan 2022 - Aug 2022	SoCal Data Science Fellowship (REU)
Dec 2020 - Present	Hispanic Scholarship Fund (HSF) Scholar

SKILLS

Computer	Advanced: R, Python, MATLAB, L ^A T _E X
	Intermediate: SQL, Java, C++, Mathematica
Language	Fluent: English, Japanese
	Intermediate: Spanish

CERTIFICATIONS

Certified Learning Assistant Program (CLAP), UC Irvine	Mar 2023
SQL - MySQL for Data Analytics and Business Intelligence, Udemy	Sep 2021