

Maegan L. Schmitz

Long Beach, CA 90803 | (714) 582-9702 | maeganschmitz@gmail.com

EDUCATION

Master of Science | Option in Human Factors May 2025
California State University, Long Beach (CSULB)
GPA: 3.9

Bachelor of Arts | Psychology | Minor | Women's, Gender, Sexuality Studies May 2023
California State University, Long Beach (CSULB)
GPA: 4.0

Associate of Arts | Psychology | Sociology June 2021
Certificates of Achievement: Spanish | Foreign Languages | IGETC
Long Beach City College (LBCC)
GPA: 4.0 | Degree Honor: Great Distinction

RESEARCH EXPERIENCE

Miles Action Perception Lab | CSULB September 2021 - May 2025

Lab Supervisor

Focus: Action and perception, cognition, stimulus response compatibility, approach avoidance, virtual reality

Faculty Mentor: James Miles, PhD

- Supervise laboratory operations to optimize research efficiency
- Run participants to gather data for a stimulus response compatibility experiment testing the effects of vibrotactile feedback on motor vehicle steering performance
- Completed an end to end research study which explored attention within the context of automobile heads-up displays

Center for Human Factors in Advanced Aeronautics Technologies

Lab Coordinator

September 2022 - May 2025

Focus: Human performance in complex systems, aeronautics, NASA, air traffic control, tactile feedback, airspace simulation, virtual reality

Faculty Mentor: Kim-Phuong L. Vu, PhD, Thomas Z. Strybel, PhD

- Operate an FAA-developed simulation tool to investigate training methods for current and future air traffic controllers

- Create flight scenarios on NASA software for the purpose of extracting data that can be used in simulation software

Decision and Information Systems Laboratory | CSULB

January 2023 - May 2025

Research Assistant

Focus: Decision making, information foraging, hypothesis testing, visual analytics

Faculty Mentor: David Illingworth, PhD

- Review scientific journal articles to present data to peers and participate in theoretical discussions
- Translate completed experiments into poster format for conference presentations
- Literature review of visual analytics, perceptual judgment, and judgment formation in the context of maps and data visualizations

BeachCave Laboratory | CSULB

May 2023 - June 2025

Research Assistant

Focus: Urban air mobility, virtual environment systems, pilot workload

Faculty Mentor: Kim-Phuong L. Vu, PhD, Thomas Z. Strybel, PhD, Panadda Marayong, PhD, Vernol Battiste PhD

- Work with engineers on a virtual reality system to conduct research on dynamic human-machine interactions
- Perform interviews with subject matter experts to inform experimental design, training materials, and gather information
- Completed an end to end research study which explored the effects of vibrotactile feedback on navigational performance, workload, situational awareness, system usability

Psychology Resource Office (PRO) | CSULB

February 2022 - December 2023

Research Group

Focus: Office usage, resource usage, visitor demographics, program evaluations

Faculty Mentor: Maricella Correa-Chávez, PhD

- Quantify office use, analyze data, and create evaluation reports to inform department
- Design best practices for office scheduling to reflect results of evaluation
- Redesigned PALS workshop workflow, including space needs, personnel, and data collection

Stress and Technology Applied Research Lab | CSULB

March 2022 - May 2024

Research Assistant

Focus: Human performance, workload and stress, human-technology interaction, individual differences

Faculty Mentor: Gabriella Hancock, PhD

- Post process raw data so that relevant material is organized and accurately coded for statistical processing
- Transform data to create novel variables for ocean animal empathy, perceptions wildlife, safety and responsibility at the beach

Industrial Organizational Lab | CSULB

March 2022 - May 2023

Lab Manager

Focus: Mental and physical disability, social inclusion, depictions of disability, gender

Faculty Mentor: Christopher R. Warren, PhD

- Mentor and train lab staff in practices to maintain high-quality research standards
- Complete IRB applications, including informed consent and explicating study materials
- Design research posters and papers for professional presentations

PUBLICATIONS

Schmitz, M. L., Dugue, V., Cheung, J., Battiste, V., Marayong, P., Strybel, T. Z., Shankar, P., & Vu, K.-P. L. (2025). Vibrotactile Navigational Cues May Be Effective for Specific Urban Air Mobility Operations. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 0(0). <https://doi.org/10.1177/10711813251369476>

Cheung, J., **Schmitz, M. L.**, Strybel, T. Z., Marayong, P., Battiste, V., Ahuja, S., Vu, K. L., & Shankar, P. (2024). Development of Android-based messaging application for onboard communication for UAM simulation. In T. Ahram & W. Karwowski (Eds.), *Human factors in design, engineering, and computing* (AHFE Open Access, Vol. 159). AHFE International. <https://doi.org/10.54941/ahfe1005723>

Strybel, T. Z., Battiste, V., Vu, K. L., Marayong, P., Ahuja, S., **Schmitz, M. L.**, Cheung, J., Culver, C., Alfaroarevalo, A., & Shankar, P. (2024). Evaluation of voice vs. text communication modes in simulated UAM operations. In A. M. Yemelyanov & L. J. Elliott (Eds.), *Neuroergonomics and cognitive engineering* (AHFE Open Access, Vol. 126). AHFE International. <https://doi.org/10.54941/ahfe1004744>

PROFESSIONAL PRESENTATIONS

Schmitz, M. L., Anderson, K., Le, B., Vandergrift, A., Roberts, S., Beurer, C., Warren, C. R. (2022, April). *Otherworldly Limitations: Analyzing Stereotypes of Disabled Comic Arts Characters*. Zine presented at 102nd Annual Western Psychological Association Conference, Waterfront, OR.

Schmitz, C. E. & **Schmitz, M. L.** (2022, February). *Limitations on Urban Drone Mobility*. Poster presented at 17th Annual California State University, Long Beach Human Factors and Ergonomics Society Student Conference, Long Beach, CA.

Schmitz, M. L. & Miles, J. (2023, March). *Change Detection in Heads-Up Display Driving Environments (Proposed)*. Poster presented at 18th Annual California State University, Long Beach Human Factors and Ergonomics Society Student Conference, Long Beach, CA.

Schmitz, M. L. & Warren, C. R. (2023, April). *Sickness Presence at Work Pre and Post Pandemic*. Poster presented at Western Psychological Association Conference, Riverside, CA.

Schmitz, M. L. & Miles, J. (2023, April). *Change Detection in Heads-Up Display Driving Environments (Completed)*. Poster presented at 51st Annual Psych Day Research Competition, Long Beach, CA.

Schmitz, M. L., Mueller-Dombois, J., San Luis, M., Gillette, T., Garcia, C. (2023, April). *Sustainability: Access to Alternatives*. Poster presented at California State University, Long Beach Sustainability Project Showcase, Long Beach, CA.

Schmitz, M. L., Romero, L., Pham, M. P., Ashqar, T., Illingworth, D. A. (2024, March) *Replicating the Role of Belief in Information Search*. Poster presented at 19th Annual California State University, Long Beach Human Factors and Ergonomics Society Student Conference, Long Beach, CA.

Schmitz, M. L., Alfaroarevalo, A., Ahuja, S., Cheung, J., Ayala, R., Ho, H., Doss-Fillmore, E., Strybel, T. Z., Battiste, V., Vu, K. L., Marayong, P., Shankar, P. (2024, March). *Thematic Analysis of Communication Modes in Simulated UAM Operations*. Poster presented at 52nd Annual Psych Day Research Competition, Long Beach, CA.

Schmitz, M. L., Dejere, M., Tran, J., Cheung, J., Ayala, R., Ho, H., Doss-Fillmore, E., Ahuja, S., Strybel, T. Z., Battiste, V., Vu, K. L., Marayong, P., Shankar, P. (2024, April). *Communication Modes in Simulated UAM Operations*. Poster presented at 1st Annual Mechanical and Aerospace Engineering Research Symposium, Long Beach, CA.

Cheung, J., Ayala, R., Ho, H., Doss-Fillmore, E., **Schmitz, M. L.**, Ahuja, S., Marayong, P., Shankar, P., Strybel, T. Z., Vu, K. L., Battiste, V. (2024, April). *Urban Air Mobility: Design of a Virtual Reality Testbed for Evaluation of Operational Concepts using CAVE System*. Poster presented at 1st Annual Mechanical and Aerospace Engineering Research Symposium, Long Beach, CA.

Phuong Pham, M., Lieu, I., **Schmitz, M. L.**, Tran, J. (2024, October). *Human Factors Research Facilities at California State University, Long Beach*. Poster presented at Human Factors and Ergonomics Society 68th International Meeting, Phoenix, AZ.

Nguyen, V., **Schmitz, M. L.**, Alfaroarevalo, A., Mercado, S., Ghatas, A., Cohen, C., Battiste, V., Vu, K. L., Strybel, T. Z., Marayong, P., Shankar, P. (2025, March). *The Sense of Flight: Vibrotactile Navigational Cues for UAM Operator Workload, Awareness, and Usability*. Poster presented at 20th Annual California State University, Long Beach Human Factors and Ergonomics Society Student Research Conference, Long Beach, CA.

Cohen, C., Ghatas, A., **Schmitz, M. L.**, Alfaroarevalo, A., Mercado, S., Nguyen, V., Battiste, V., Vu, K. L., Strybel, T. Z., Marayong, P., Shankar, P. (2025, March). *Thematic Analysis of Vibrotactile Navigational Cues for Urban Air Mobility Operations*. Poster presented at 20th Annual California State University, Long Beach Human Factors and Ergonomics Society Student Research Conference, Long Beach, CA.

Alfaroarevalo, A., Mercado, S., Nguyen, V., **Schmitz, M. L.**, Ghatas, A., Cohen, C., Strybel, T. Z., Battiste, V., Vu, K. L., Marayong, P., Shankar, P. (2025, March). *Thematic Analysis of Vibrotactile Navigational Cues for Urban Air Mobility Operations*. Poster presented at 20th Annual California State University, Long Beach Human Factors and Ergonomics Society Student Research Conference, Long Beach, CA.

Schmitz, M. L. & Roescher, T. (2025, March). *Trust, Fault, Blame, and Driver Performance in Automated Vehicle Collisions*. Poster presented at 20th Annual California State University, Long Beach Human Factors and Ergonomics Society Student Research Conference, Long Beach, CA.

Schmitz, M. L., Cohen, C., Ghatas, A., Alfaroarevalo, A., Mercado, S., Nguyen, V., Strybel, T. Z., Battiste, V., Vu, K. L., Marayong, P., Shankar, P. (2025, April). *UAM Operator Performance when Using Vibrotactile Cueing During En Route and Landing Maneuvers*. Poster presented at 2nd Annual Mechanical and Aerospace Engineering Research Symposium, Long Beach, CA.

Roescher, T. & **Schmitz, M. L.** (2025, May). *Detection and Recognition of Vehicle Shape and Orientation During Occluded and Limited Exposure Observations*. Poster presented at 105th Annual Western Psychological Association Conference, Las Vegas, NV.

AWARDS AND HONORS

Soroptimist International Scholarship June 2021
Long Beach City College | Soroptimist International

PSI CHI International Honor Society in Psychology December 2021

California State University, Long Beach PSI CHI International	
Katherine White Education Award California State University, Long Beach Soroptimist International	June 2022
Tomy Jung Memorial Scholarship California State University, Long Beach College of Liberal Arts	June 2022
Women and Philanthropy Undergraduate Reentry Scholarship California State University, Long Beach Women in Philanthropy	June 2022
Outstanding Senior in Psychology California State University, Long Beach Department of Psychology	December 2022
Certified Supplemental Instruction Leader California State University, Long Beach The Learning Center	February 2023
J. Robert Newman Scholar California State University, Long Beach MSHF Graduate Admissions Board	April 2023
Associated Students Inc. Student Travel Fund California State University, Long Beach Graduate Resource Center	April 2024
Best in Show California State University, Long Beach 2023 Sustainability Project Showcase	April 2023
Best Graduate Completed Research California State University, Long Beach 52nd Annual Psych Day Research Competition	April 2024
Associated Students Inc. Student Travel Fund California State University, Long Beach Graduate Resource Center	October 2024
Graduate Travel Fellowship California State University, Long Beach Graduate Resource Center	October 2024
Gilbert J. Padilla Memorial Award California State University, Long Beach Chair of the Psychology Department	April 2025
3rd Place Award – Research Presentation	April 2025

California State University, Long Beach | 2nd Annual Mechanical and Aerospace Engineering Research Symposium

LEADERSHIP POSITIONS

Psychology Resource Office | CSULB

February 2022 - December 2022

Peer Mentor

Faculty Mentor: Maricela Correa-Chavez, PhD

- Mentor and advise students about life after graduation
- Create and present educational workshops

Engineering Girls | CSULB

April 2022 - May 2025

Workshop Presenter

Faculty Mentor: Dr. Kim-Phuong L. Vu, PhD

- Broaden middle-school aged females knowledge in engineering disciplines
- Motivate students to pursue STEM through laboratory-based activities
- Create, present, and facilitate educational workshops

Human Factors and Ergonomics Student Chapter | CSULB

May 2022 - May 2025

President | Vice President | Historian

Faculty Mentor: Gabriella Hancock, PhD, David Illingworth, PhD

- Oversee various committees within the student chapter by delegating tasks and ensuring progress toward goals
- Created a checklist system for chapter leadership to ensure efficiency and task completion
- Designed an informational sponsorship onesheet for the Spring 2023 CSULB HFES Student Research Conference for the purposes of accruing sponsorship donations and local partners

Psychology Department | CSULB

August 2022 - May 2025

Instructional Student Assistant

Faculty Mentor: James Miles, PhD

- Manage self-paced work assignments to meet deadlines independently
- Handle student records and confidential information to uphold privacy regulations

The Learning Center | CSULB

August 2022 - May 2023

Supplemental Instruction Leader for Psychobiology

Faculty Mentor: Arturo Zavala, PhD

- Prepare lesson plans appropriate that facilitate student learning of key target lecture content

- Facilitate the development of study skills and learning strategies critical to the discipline and course curriculum
- Integrate collaborative learning techniques

Psychology Department | CSULB

August 2023 - December 2023

Graduate Teaching Assistant

Faculty Mentor: David Illingworth, PhD

- Facilitate lab sessions, providing step-by-step guidance on Python programming, data analysis, and statistical techniques to ensure students' comprehension of course concepts
- Update and improve personal Python programming skills to stay abreast of the latest developments and provide up-to-date support to students

Long Beach Promise | CSULB

August 2023 - December 2024

Workshop Presenter

Faculty Mentor: Dr. Kim-Phuong L. Vu, PhD

- Create, present, and facilitate educational human factors workshops

Bickerstaff Academic Center | CSULB

January 2024 - May 2024

Tutor

Supervisor: Jenne Herrera

- Specialize in multivariate and regression statistical methods to analyze data sets
- Track and document students' academic progress over time to ensure comprehension
- Implement interactive and engaging methods to facilitate student understanding

PROFESSIONAL TALKS

PRO Research and Data Management

March 2022, October 2022

California State University, Long Beach

- Perform end of semester review of office activity, providing statistical analysis on office use to develop data driven suggestions for future improvement

“Getting Involved on Campus” PALS Workshop

March 2022, September 2022

California State University, Long Beach

- Compile and present student resources for the purpose of training demonstrations

“Gap Year” Psych Day Workshop

April 2022

California State University, Long Beach

- Research information on how to successfully take a post-graduation gap year

“Design Game Devices Like a Human Factors Professional” Workshop

April 2023

California State University, Long Beach

- Teach attendees about basic human factors principles and facilitate a design session which uses them

“Air Traffic Control” Outreach Workshop

September 2023

California State University, Long Beach

- Walk through NASA ATC software, demonstrating the software's ecological basis and basic research capabilities

“Alcohol Priming and Aggressive Driving”

November 2023

California State University, Long Beach

- Present theoretical background, design, and results of a completed study on alcohol priming as a mediator for aggression and aggressive driving behavior

“Probability vs. Frequency in Data Visualizations”

December 2023

California State University, Long Beach

- White paper proposal which expands on previous work in the domain of visual analytics, perceptual judgment, and judgment formation

“Graphical Presentation of Experimental Results”

February 2023

California State University, Long Beach

- Technical report, including design recommendations and presentation

“Heuristic Analysis: ReliOn Wrist Blood Pressure Monitor”

March 2023

California State University, Long Beach

- Technical report, design recommendations, and presentation

“Rapid Prototyping” Workshop

April 2024

California State University, Long Beach

- Taught attendees how to create user scenarios, user personas, and user flows to create wireframes and prototypes

“Navigating Distraction: Attention in Car Displays and Driving Environments”

April 2024

California State University, Long Beach

- Present theoretical background, design, and results of a completed flicker task experiment which studies attention in driving environments in the presence of a heads up display

“Trust and Performance: The Impact of Fault and Crash Configuration in Automated Vehicle Accidents”

September 2024

California State University, Long Beach

- Present theoretical background, experimental design, and expected results of a proposed experiment which uses a driving simulator to study trust in AI and driver performance in automated vehicle crash scenarios

“Tactile Displays for Urban Air Mobility Operations”

October 2024

California State University, Long Beach

- Perform literature review which explores the application of tactile feedback to Urban Air Mobility operations
- Describe stimulus response compatibility theories, summarize data driven tactile display design recommendations from literature, provide use-case justification for Urban Air Mobility operations

“Surface Transportation and Automated Vehicles”

December 2024

California State University, Long Beach

- Present theoretical background, design, key issues in design, and practical applications of automation in motor vehicles

“Vibrotactile Navigational Cues May Be Effective for Specific UAM Operations”

California State University, Long Beach

May 2025

- Present use-case, experimental design, and results of an experiment which used a virtual reality simulator to study UAM operator performance and experience when using vibrotactile navigational cues

PROJECTS

Testing Tactile Navigational Cues for Urban Air Mobility Operations June 2024 - Present

California State University, Long Beach

- Designed an experiment using tactile feedback in the BeachCave virtual reality simulator for the purpose of studying Urban Air Mobility operations
- Performed a literature review, found gap in research, identified use case, and formulated an experimental framework
- Managed the project and a team of 11 multidisciplinary students while updating faculty weekly

Development of a Virtual Reality Driving Simulator

June 2024 - Present

Aperture LLC

- Develop a high fidelity driving simulator to perform human subject testing in the Aperture Research and Testing facility with the purpose of performing general scientific inquiry and completing case work
- Wrote a technical report detailing workflow analysis, requirements analysis, trade studies, and feature analysis of the system

Trust, Blame, and Driver Performance in Simulated Automated Vehicle Scenarios

California State University, Long Beach

January 2025 - Present

- Designed an experiment which incorporates trust in automated driving systems
- Performed a literature review, found gap in research, identified use case, and designed an experimental framework
- Programmed experimental trials in C# for Unity, ran participants, input data

Change Detection in Heads-up Display Driving Environments

California State University, Long Beach

November 2022 - March 2023

- End to end study. Performed a literature review, designed an experimental framework, created stimuli in inDesign, programmed the experiment in Python, post processed data, and presented the findings

Project Management of a Kitchen Knife

January 2024 - May 2024

California State University, Long Beach

- Use systems engineering perspective to plan the development of a kitchen knife system
- Perform requirements analysis, function allocation diagrams, hierarchical work breakdown structure, risk assessments, trade studies, N² diagrams, verification requirements matrices

Academic Advising Website Redesign

June 2024-December 2024

California State University, Long Beach

- Complete task analysis and card sorting to organize the information architecture of the student academic advising website
- Create low fidelity wireframes in Miro and high fidelity prototypes in Figma
- Rapidly iterate based on user and stakeholder feedback

Usability Study of the Invoytec Ventway Sparrow Ventilator

Contract

October 2024 - November 2024

- Lead scenario testing by moderating usability testing for FDA approval
- Completed data input, post processing, qualitative analyses, root cause analysis, and technical report write ups within the given timeline

Automated Vehicle Interface Design

January 2025 - March 2025

California State University, Long Beach

- Deconstruct existing electric vehicle interfaces and create user interface asset inventory
- Form questionnaires to create data driven designs
- Improve existing interface flows and processes to enhance user safety

VEHICLE IMPACT TESTING

Pedestrian Shoulder Acceleration

August 2025

Assisted in an experiment which used full scale motor vehicles to collect pedestrian acceleration data from a vehicle impact. Set up and used high-G triaxial accelerometers, data acceleration units, tape switches, and a time trap. Collected pedestrian shoulder acceleration, vehicle idle speed, and vehicle impact speed. Documented experiment with photographs and video. Operated the striking vehicle, assisted with set up, and documentation.

TRAINING AND CERTIFICATES

Bosch CDR Tool Technician Training

Issued: August 11, 2025

University of North Florida

Social & Behavioral Research - Basic/Refresher

Expires May 24, 2028

Collaborative Institutional Training Initiative

Social and Behavioral Responsible Conduct of Research

Expires February 13, 2026

Collaborative Institutional Training Initiative

SKILLS

Computer: Python, Tkinter, Ruby, C#

Software: MATLAB, Artec Studio, PsychoPy, PsyToolKit, Unity, R Statistical, SPSS Statistical, Adobe Suite, Miro Board, Figma, Unity, Blender

Tools: Artec LEO, Artec Ray II

Research: Experimental design, data input, data organization, statistical procedures, graphical presentation of data, presentation of research, designing and formatting scientific posters, technical reports

Fine Art: Oil paint, gouache, watercolor, color theory, charcoal, graphite, brainstorming techniques, sketch and color studies, composition design, graphic design

PROFESSIONAL SOCIETIES

Human Factors and Ergonomics Society, Psychonomic Society, PSI CHI International Honors Society