

Alexandria E. Pabst

Cognitive Neuroscientist & User Experience Researcher
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EDUCATION

- 2015 - 2021 Ph.D., *University of California, Merced*. Cognitive and Information Sciences.
- 2011 - 2014 B.A. (with honors), *University of California, Merced*. Cognitive Science. Minor in Psychology.

PROFESSIONAL EXPERIENCE

2021- current Technology Research Associate Principal, Accenture.

Highlighted projects:

- Contextual Activity Recognition Engine: User experience research lead for determining how intelligent assistants can interact with learners to teach them new skills related to home healthcare tasks.
- Workforce Wellbeing: User research lead, working with a large social media company to understand the impact daily work has on their workforce through quantitative and qualitative methods.
- Multimodal Interactions in Automotive Vehicles: User research lead, understanding how context in in-vehicle interactions shapes user experience and preferences for multimodal interfaces.

PROFESSIONAL TRAINING

- 2022 “Developing Our Women: Steering Your Career” Leadership Training. Virtual, Accenture.
- 2021 Winter Dissertation Boot Camp, UC Merced, Merced. (Host: UC Merced Graduate Division)
- 2021 Winter Dissertation Boot Camp, UC Merced, Merced. (Host: UC Merced Graduate Division)
- 2020 NeuroMatch Academy, an online school for Computational Neuroscience.

- 2020 Text Analysis for Beginners, Digital Scholar Workbench. (Host: JSTOR and Portico publishers.)
- 2020 Winter Dissertation Boot Camp, UC Merced, Merced. (Host: UC Merced Graduate Division)
- 2019 COGS 269: EEG Methods course, UC Merced, Merced. Instructor of record: Kristina Backer
- 2019 NSF AGEP Summer Institute, UC Santa Barbara, Santa Barbara. (Host: Mary Hegarty)
- 2018 KINARM Training Camp, Kingston, ON. (Host: Steve Scott)
- 2016 UC Music Experience Research Community Initiative (MERCİ) Student Exchange, Center of Aging, University of California, San Francisco. (Host: Julene Johnson)
- 2016 Transcranial Magnetic Stimulation (TMS) Methods and Practice, Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles.
- 2016 UC Retreat Workshop on Research in Music Experience and Communication, Point Reyes, CA.
- 2016 UC Music Experience Research Community Initiative (MERCİ) Student Exchange, Center of Aging, University of California, San Francisco. (Host: Julene Johnson)
- 2016 Generalized Linear Model Workshop, University of California, Merced. (Instructor: Bodo Winter)
- 2016 Workshop on Data Analysis in Python, University of California, Merced. (Instructor: Bryan Kerster)
- 2015 UC MERCİ Symposium/Workshop on Research on Music Experience and Communication, University of California, Los Angeles.

PUBLICATIONS

Pabst, A., Tabb, T., & Danielescu, A. (in prep). Contextual influences on multimodal interactions in automotive vehicles.

Pabst, A., Proksch, S., Médé, B., Comstock, D. C., Ross, J. M., & Balasubramaniam, R. (2022). A systematic review and meta-analysis of the efficacy of intermittent theta burst stimulation (iTBS) on cognitive enhancement. *Neuroscience & Biobehavioral Reviews*, 104587.

Proksch, S., Comstock, D. C., Médé, B., **Pabst, A.**, & Balasubramaniam, R. (2020). Motor and predictive processes in auditory beat and rhythm perception. *Frontiers in Human Neuroscience*, 14, 375.

Bandarkar, S., Pham, L., Park, A., Cheng, V., Poyner, S., Weddle, H., ... & **Pabst, A.** (2019). UC Title IX Student Advisory Board 2018-2019. https://www.ucop.edu/title-ix/files/tix-sab-recommendations_final_6_4_19.pdf

Pabst, A., & Balasubramaniam, R. (2018). Trajectory formation during sensorimotor synchronization and syncopation to auditory and visual metronomes. *Experimental brain research*, 1-10.

Johnson, J. K., Gregorich, S. E., Acree, M., Nápoles, A. M., Flatt, J. D., Pounds, D., **Pabst, A.**, & Stewart, A. L. (2017). Recruitment and baseline characteristics of the Community of Voices choir study to promote the health and well-being of diverse older adults. *Contemporary Clinical Trials Communications*, 8, 106-113.

POSTERS AND PRESENTATIONS

Greenspan, B., Nishihara, N., & Pabst, A. (2022). Moving Beyond Mass Production: Building a new future of manufacturing in the wake of COVID-19. Accenture Labs Notebook talk (virtual).

Pabst, A. (2021). Perturbations to cognitive systems and downstream effects on behavior. Invited talk at Accenture Labs (virtual).

Pabst, A. (2019). Non-invasive modulation of motor and parietal cortices during procedural and declarative memory tasks. Invited talk at Fresno State University, Fresno, CA.

Pabst, A. & Balasubramaniam, R. (2019). The impact of viscous and elastic loads on a bimanual reach task. Poster presented at the *2019 Society for Neuroscience Annual Meeting*, Chicago, IL.

Wang, E., Pabst, A., & Balasubramaniam, R. (2019). Differences in components of movement during implicit and explicit learning of motor sequences in a serial reaction time task. Poster presented at *ABRCMS 2019*, Anaheim, CA.

Wang, E., Pabst, A., & Balasubramaniam, R. (2019). Motor Sequence Learning: Using Arm-Reaching Task for Learning. Poster presented at the *2019 UROC Undergraduate Research Symposium*, Merced, CA.

Gordon, C., Pabst, A., & Balasubramaniam, R. (2019). A functional role for primary motor cortex in memory for manipulable and handwritten words. Poster presented at the *2019 Cognitive Neuroscience Society Annual Meeting*, San Francisco, CA.

Pabst, A. & Balasubramaniam, R. (2018). Contribution of movement trajectories to error correction and timekeeping during sensorimotor synchronization and syncopation to auditory and visual metronomes. Poster presented at the *2018 Society for Neuroscience Annual Meeting*, San Diego, CA.

Pabst, A. & Balasubramaniam, R. (2018). Differential involvement of the posterior parietal cortex in consolidation for procedural and declarative learning. Poster presented at the *28th Annual Meeting for the Society for the Neural Control of Movement*, Santa Fe, NM.

Mede, B., Khalil, A., Pabst, A., Eidsheim, N., Johnson, J. (2017). Participation of older adults in a single session of musical group activity increases social cohesiveness and positive affect. Oral presentation at the *Society for Music Perception and Cognition*, San Diego, CA.

Pabst, A., Vanden Bosch der Nederlanden, C. M., Washburn, A., Abney, D., Chiu, E. M., & Balasubramaniam, R. (2016). Perceptual-Motor Entrainment in the Context of the Speech to Song Illusion: Examining Differences in Tapping Patterns to Perceived Speech vs. Song. Poster presented at the *14th International Conference for Music Perception and Cognition*, San Francisco, CA.

UNIVERSITY TEACHING EXPERIENCE

Spring 2021 Teaching Assistant. COGS 130: Cognitive Neuroscience. University of California, Merced. Instructor of Record: Kristina Backer. (*Impacted by COVID-19, taught online*)

Fall 2020 Teaching Assistant. COGS 140: Perception and Action. University of California, Merced. Instructor of Record: Ramesh Balasubramaniam. (*Impacted by COVID-19, taught online*)

- Summer 2020 Instructor of Record. COGS 171: Memory and Cognition.
University of California, Merced. (*Impacted by COVID-19, taught online*)
- Spring 2020 Teaching Assistant. COGS 130: Cognitive Neuroscience. University of California, Merced. Instructor of Record: Kristina Backer. (*Impacted by COVID-19, taught partially online*)
- Fall 2019 NSF AGEP Fellow. BIO: Animal Behavior. California State University, Fresno. Instructor of Record: David Lent.
- Spring 2019 Teaching Assistant. COGS 130: Cognitive Neuroscience. University of California, Merced. Instructor of Record: Kristina Backer.
- Fall 2018 Teaching Assistant. COGS 140: Perception and Action. University of California, Merced. Instructor of Record: Ramesh Balasubramaniam.
- Spring 2018 Teaching Assistant. COGS 140: Perception and Action. University of California, Merced. Instructor of record: Ramesh Balasubramaniam.
- Fall 2017 Teaching Assistant. COGS 001: Introduction to Cognitive Science. University of California, Merced. Instructor of record: Michael Spivey.
- Spring 2017 Teaching Assistant. COGS 001: Introduction to Cognitive Science. University of California, Merced. Instructor of record: Michael Spivey.
- Fall 2016 Teaching Assistant. MGMT 150/COGS 152: Service Innovation. University of California, Merced. Instructor of record: Paul Maglio.
- Spring 2015 Teaching Assistant. COGS 101: Mind, Brain, and Computation. University of California, Merced. Instructor of record: Ben Pageler.
- Fall 2015 Teaching Assistant. COGS 140: Perception and Action. University of California, Merced. Instructor of record: Ramesh Balasubramaniam.

SERVICE

- 2022-present Co-Lead of Accenture Labs TEthER: Tech-Ethics Engaged Researchers.
- 2022 Accenture Technology Innovation Summer Intern Coordinator.
- July 2020 Co-Organizer for the 2020 UndocuGrad Conference, hosted by UC Merced Graduate Division.
- 2019 - 2020 Council Member, University of California Graduate and Professional Council, University of California.
- 2019 - 2020 External Vice President, Graduate Student Association, UC Merced
- 2019 - 2020 Graduate Student Advisor, UC Merced Dance Team, UC Merced
- 10/21/2019 Organizer for Cognitive Science for the Common Good: “Improving Workplace Climate and Gender Equity in Academia”, UC Merced.
- 04/03/2019 A Guide to: Graduate School, Undergraduate Information Session presented by SSHA Advising Peer Mentors, UC Merced
- 2018 - 2019 Peer Mentor, Women in STEM, UC Merced
- 2018 - 2019 Graduate Student Advisor, Cognitive Science Student Association, UC Merced
- 08/16/2018 Experienced Teacher’s Assistant Information Panel, Graduate Student TA Orientation, Center for Engaged Teaching and Learning (CETL), UC Merced
- 2018 - 2019 Graduate Student Representative for UC Merced, University of California Title IX Student Advisory Board
- 2017 Volunteer, Society for Music Perception and Cognition 2017, San Diego, CA.
- 2016 - 2020 Graduate Student Representative, Advisory Committee for Campus Advocacy, Resources & Education (CARE) at UC

Merced

- 2015 Student research talk organizer, Department of Cognitive and Information Sciences, University of California, Merced.
- 5/30/2016 Public outreach, Mercy Hospital 5K Stroke Awareness Run: Spoke with participants about brain health and balance, and discussed our research
- 2014 - 2015 Research Assistant in Spivey Lab & Sensorimotor Neuroscience Lab (Data Collection, Data Cleaning), University of California, Merced.
- 2015 Technical Assistant: Vicon Motion Capture Systems in Sensorimotor Neuroscience Lab, University of California, Merced.

HONORS, SCHOLARSHIPS, & AWARDS

- Sept 2021 Accenture FY21 Inventor Award Program Honoree.
- Fall 2019 National Science Foundation (NSF) Alliances for Graduate Education and the Professoriate (AGEP) Fellow, NSF AGEP California HSI Alliance.
- Fall 2019 Featured Student on School of Social Sciences, Humanities, and Arts website at UC Merced. Link:
<https://ssha.ucmerced.edu/content/alexandria-pabst>
- Spring 2019 Recipient of the 2019 Pride Week's LGBTQ+ Building Communities Award, UC Merced.
- Spring 2019 GRAD-EXCEL Peer Mentorship Program Award, Graduate Division, University of California, Merced.
- Fall 2018 GRAD-EXCEL Peer Mentorship Program Award, Graduate Division, University of California, Merced.
- Summer 2018 Graduate Fellowship (\$2000), Psychological Sciences, University of California, Merced.
- Summer 2018 Graduate Bobcat Fellowship (\$858), University of California, Merced.

- Spring 2017 Deputy Rick Meredith Memorial Scholarship, Placer County Sherriff's Office.
- Spring 2016 Deputy Rick Meredith Memorial Scholarship, Placer County Sherriff's Office.
- Fall 2015 Graduate Student Cognitive and Information Sciences Award, University of California, Merced.
- 2013 - 2014 Bobcat Grant, University of California, Merced.
- 2012 - 2013 Bobcat Grant, University of California, Merced.
- 2011 - 2012 Bobcat Grant, University of California, Merced.
- Fall 2011 Deputy Rick Meredith Memorial Scholarship, Placer County Sherriff's Office.

SPECIAL PEDAGOGICAL ACTIVITIES

- 11/26/2019 Guest lecture for BIO: Animal Behavior. Performed lecture on human and monkey oestrus cycles in relation to 'risky' behavior.
- 11/21/2019 Guest lecture for BIO: Animal Behavior. Performed lecture on musical ability and performance in humans and close ancestors.
- 10/17/2019 Guest lecture for BIO: Animal Behavior. Performed lecture on altruism and pro-sociality in ravens and American crows.
- 09/11/2018 Guest lecture for COGS 140: Perception and Action. Performed lecture on basal ganglia function and disorder, mirror neurons, and parietal cortex function.
- 04/24/2018 Transcranial magnetic stimulation (TMS)/Electroencephalography (EEG) demonstration for COGS 269: Human Cognitive Neuroscience. Performed introductory lecture and training on TMS (Magstim) and EEG (AntNeuro) equipment.
- 04/17/2018 Guest lecture for COGS 140: Perception and Action. Performed introductory lecture on synaptic plasticity and human memory systems.
- 04/2016 Motion Capture Lecture/demonstration for COGS 180: Gesture Performed introductory lecture and training on Vicon Bonita Motion Capture System and AMTI Force and Motion Platforms (Optima BP400600-2000)

PROFESSIONAL AFFILIATIONS

Society for Music Perception and Cognition

Society for the Neural Control of Movement

Society for Neuroscience

Cognitive Neuroscience Society

TECHNICAL SKILLS

Computer Programming. MatLab, Stateflow + Simulink, and R. Experience with Python, JavaScript, and HTML/CSS.

Preferred Methods. Vicon Nexus motion capture system and software, KINARM Exo, Transcranial Magnetic Stimulation, and Eye-Link II head-mounted eye-tracking. Experience with EEG, PsychoPy and Paradigm experiment building software to build human subject experiments.