

CURRICULUM VITAE

Brandon K. Watanabe

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EDUCATION

2019 – 2023 **Texas A&M University**, College Station, TX
B.S. Psychology, Neuroscience minor
Summa Cum Laude, GPA: 3.97

Honors Thesis: *The impact of working memory load on error monitoring*
Advisor: Annmarie MacNamara, PhD

HONORS, AWARDS, AND GRANTS

2023 **Undergraduate Research Scholar**, Texas A&M University
2023 **Vice President Excellence in Research Award**, Texas A&M University (\$1,000)
The impact of working memory load on error monitoring
Advisor: Annmarie MacNamara, PhD
2022 **Psychology Division Travel Award**, Council of Undergraduate Research (\$400)
2022 **Undergraduate Research Program Grant**, Texas A&M University (\$2,500)
Understanding the connections between emotion regulation and cognitive flexibility
Advisor: Joseph Orr, PhD
2021 – 2022 **Undergraduate Student Travel Grant** (x2), George and Barbara Bush Foundation (\$750)
2020 **Virtual Project Showcase – 1st Place Non-Capstone Team**, Texas A&M University (\$500)
mHELP: Mental health evaluation and lookout program for college students
Advisor: Farzan Sasangohar, PhD
2019 – 2023 **Terry Scholarship**, Terry Foundation (Full-Ride Scholarship)

PEER-REVIEWED PUBLICATIONS

1. **Watanabe, B. K.**, Bauer, E. A., & MacNamara, A. (Revise & Resubmit). Error monitoring under working memory load: an electrocortical investigation. *Psychophysiology*.
2. Bauer, E. A., **Watanabe, B. K.**, & MacNamara, A. (2023). Reinforcement learning and the reward positivity with aversive outcomes. *Psychophysiology*, 00, e14460. <https://doi.org/10.1111/psyp.14460>.
3. Park, S., **Watanabe, B. K.**, & Burte, H. (2022). Perspective taking and reference frames for spatial and social cognition. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 44(44). <https://escholarship.org/uc/item/6wq5x6nn>.

CONFERENCE POSTERS

(* indicates equal contribution)

1. **Watanabe, B. K.**, Bauer, E. A., & MacNamara, A. (2023, September). *Working memory load reduces error-processing: An ERP study*. Presented at the annual meeting of the Society for Psychophysiological Research, New Orleans, Louisiana.
2. **Watanabe, B. K.**, Bauer, E. A., & MacNamara, A. (2023, April). *The impact of working memory load on error monitoring*. Presented at the University of Texas Longhorn Research Poster Session and Undergraduate Research Day, Austin, TX.
3. Guzman, H., **Watanabe, B. K.**, Imburgio, M. J., & Orr, J. M. (2023, March). *The effect of practice on task-set inertia and neural task set representations in fMRI*. Presented at the 30th Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
4. **Watanabe, B. K.**, Guzman, H., Imburgio, M. J., & Orr, J. M. (2023, March). *The effect of practice on task-set inertia and neural task set representations in EEG*. Presented at the 30th Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
5. **Watanabe, B. K.**, Guzman, H., Imburgio, M. J., & Orr, J. M. (2023, March). *The effect of practice on task-set inertia and neural task set representations in EEG*. Presented at Texas A&M Student Research Week, College Station, TX.
6. **Watanabe, B. K.**, Bauer, E. A., & MacNamara, A. (2023, February). *The impact of working memory load on error monitoring*. Presented at the Undergraduate Research Scholars Symposium, College Station, TX.
7. Park, S., **Watanabe, B.**, & Burte, H. M. (2022, November). *Is mentalizing related to spatial perspective-taking?* Presented at the 63rd Psychonomic Society Conference (Virtual).
8. **Watanabe, B. K.**, Park, S., & Burte, H. (2022, March). *Should you take directions from an extrovert? The relationship between personality and perspective taking*. Presented at Texas A&M Student Research Week, College Station, TX.
9. Nutalapati, N.*, Raina, Y.*, **Watanabe, B. K.***, Park, S., & Burte, H. (2022, March). *How well do you know your campus? A pilot study examining the relationship between anxiety and spatial ability*. Presented at Texas A&M Student Research Week, College Station, TX.
10. Park, S., **Watanabe, B. K.**, & Burte, H. M. (2021, October). *Reference frames for spatial & social cognition*. Presented at the 62nd Psychonomic Society Conference (Virtual).
11. Park, S., **Watanabe, B. K.**, & Burte, H. M. (2021, August). *Reference frames for spatial and social thinking: Individual differences in strategy use*. Presented at the Spatial Cognition 2020/1 Conference (Virtual).
12. Ramos, E. T., Wang, X., Keller, B., Chang, A., **Watanabe, B. K.**, Cahill, J., & Sasangohar, F. (2021, April). *Usability testing for the mental health evaluation and lookout program (mHELP) application for college students*. Presented at the 2021 International Symposium on Human Factors and Ergonomics in Health Care (Virtual).

CONFERENCE PRESENTATIONS

(* indicates equal contribution)

1. **Watanabe, B. K.**, Bauer, E. A., & MacNamara, A. (2023, March). *The impact of working memory load on error monitoring*. Presented at Texas A&M Student Research Week [**Awarded Vice President Excellence in Research**], College Station, TX.

2. **Watanabe, B. K.*** & Cahill, J.* (2021, March). *Remote mental health evaluation and lookout program for college students*. Presented at Texas A&M Student Research Week (Virtual).
3. Long A.*, Ramos, E. T.*, Cahill, J.*, Dikshit, R.*, Nguyen, T.*, & **Watanabe, B. K.*** (2020, December). *mHELP: Mental health evaluation and lookout program for college students*. Presented at the Texas A&M Virtual Project Showcase (Virtual) [**Awarded 1st Place Non-Capstone Team**].

RESEARCH EXPERIENCE

Multimethod Affect and Cognition Lab, Texas A&M University

PI: Annmarie MacNamara, PhD

2023 – Present *Lab Manager*

- Oversaw data collection for all projects using EEG, fMRI, and self-report measures.
- Developed data processing pipelines using BrainVision Analyzer, R, and SPSS.
- Organized all data collected for a longitudinal study (R01 MH125083) for bi-annual submission to the NIMH Data Archive (NDA).
- Setup and monitored EMG data collection during MRI scans.
- Analyzed EEG and behavioral data using both Frequentist/Bayesian approaches and multilevel modelling.
- Presented research at the annual meeting of the Society for Psychophysiological Research.

2021 – 2023 *Undergraduate Research Assistant*

- Setup and monitored EEG, EOG, startle, and SCR data collection.
- Visually inspected EEG data and identified artifacts.
- Conducted monthly audits of all lab working funds.
- Completed thesis project looking at how working memory load impacts error-processing.

Cognitive Neuroscience of Goals and Action Lab, Texas A&M University

PI: Joseph Orr, PhD

2022 – 2023 *Undergraduate Research Assistant*

- Led project using EEG to understand connections between emotion regulation and cognitive flexibility.
- Assisted in study conceptualization and paradigm development.
- Created dual emotion regulation-cognitive flexibility task using PsychoPy.
- Used processing pipelines in MATLAB to prepare data for analysis in EEGLAB.
- Presented lab findings on the effect of practice on task-set inertia and neural task set representations at the Annual Meeting of the Cognitive Neuroscience Society.

Innovation [X], Texas A&M University

PIs: Andrew Nordin, PhD & Heather Burte, PhD

2021 – 2022 *Undergraduate Research Assistant*

- Selected to work on an interdisciplinary team studying human brain processes during complex locomotor navigation.
- Collaborated with team members to develop Python scripts for a PsychoPy spatial navigation experiment and collect pilot data.
- Presented research at Texas A&M Student Research Week.

Spatial Thinking and STEM Learning Lab, Texas A&M University

PI: Heather Burte, PhD

2021 – 2022 *Undergraduate Research Assistant*

- Developed R scripts to clean, process, and analyze data from both a spatial and social perspective taking tasks.
- Oversaw in person/virtual data collection of participants via SONA.
- Co-authored conference paper presented at the Annual Conference for the Cognitive Science Society.
- Presented research findings at Texas A&M Student Research Week.

Applied Cognitive Ergonomics Lab, Texas A&M University

PI: Farzan Sasangohar, PhD

2020 – 2021 *Undergraduate Research Assistant*

- Helped clean and analyze qualitative data for a study investigating human trust factors in autonomous vehicles.
- Cleaned and developed heatmaps for data collected using Tobii eye tracker in autonomous vehicle testing.
- Developed usability testing protocols and administered virtual usability tests for a remote mental health application for college students (mHELP). Created comprehensive usability testing report.
- Presented research findings at Texas A&M Student Research Week.

PROFESSIONAL DEVELOPMENT AND TRAINING

2023 **Deciding How Much to Bet on an Idea: Bayesian Data Analysis**

Society for Psychophysiological Research, New Orleans, LA

Facilitator: Charles Green, PhD & Francesco Versace, PhD

- Trained on how to conduct Bayesian statistical analyses in R.

2021 **Laney Graduate School – Summer Opportunities for Academic Research (LGS-SOAR)**

Emory University, Virtual

Facilitator: Amanda Marie James, PhD

- Attended weekly seminars on graduate school preparation and group meetings led by a Psychology graduate student.

TEACHING, LEADERSHIP, AND MENTORING

Spring 2023 **Teaching Scholar**

PSYC/NRSC 320: Sensation and Perception, Texas A&M University

Instructor: Heather Burte, PhD

- Assisted with grading, exam preparation, and exam administration.

Fall 2022

Teaching Scholar

PSYC 302: Research Methods and Design in Psychology, Texas A&M University

Instructor: Vani Mathur, PhD

- Gave guest lecture on EEG and ERPs.

Spring 2022

Teaching Scholar

PSYC 301: Elementary Statistics for Psychology, Texas A&M University

Instructor: Yumiko Mochinushi, PhD

- Gave guest lectures on correlation and ANOVA.

- 2022 – 2023 **Texas A&M Undergraduate Research Representative**
Academy of Undergraduate Researchers Across Texas
- Chosen to be part of a cohort of 6 students to present research and promote funding for undergraduate research at the Texas Capitol.
- 2022 – 2023 **Undergraduate Research Ambassador**
LAUNCH Undergraduate Research Ambassadors Program, Texas A&M University
- Helped promote undergraduate research programs and mentor other students in finding and applying to different research programs.
- 2022 **Peer Mentor**
PSYC Mentor Program, Texas A&M University
- Mentored groups of 20+ first semester psychology students. Provided resources for receiving academic support, mental health care, and engaging in student communities.
- 2021 – 2023 **Awareness Committee Chair**
Aggie Mental Health Ambassadors, Texas A&M University
- Led a committee focused on promoting mental health resources to the student body through organized campaigns and collaborations with other student organizations.

TECHNICAL SKILLS

Statistical Software	SPSS – general linear modelling R – data manipulation, mixed effect/multilevel modelling JASP – Bayesian statistical analysis
EEG Analysis	BrainVision Analyzer 2 – EEG processing, ICA, segmentation, grand averaging MATLAB – EEGLAB/ERPLAB (PCA, ICA)
Psychophysiology	actiCHamp/actiCAP EEG system, BIOPAC MP160 (AcqKnowledge), EMG/EOG, Startle, SCR
Stimulus Presentation	PsychoPy (Python), Presentation
Neuroimaging	FreeSurfer (cortical reconstruction), MRICroGL, Unix (tcsh/bash)
Data Management	Qualtrics, REDCap, SONA, NIMH Data Archive (NDA)
Miscellaneous	Bambu Studio (3D printing)

PROFESSIONAL AFFILIATIONS

- Society for Psychophysiological Research**, Member (2023 – Present)
Diversity and Outreach Committee Member (2023 – Present)
- Cognitive Neuroscience Society**, Member (2022 – Present)
- Cognitive Science Society**, Member (2021 – 2023)
- Psi Chi**, Member (2021 – Present)