Quan (Violet) Zhou

Computational and Cognitive Neuroscience Lab
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EDUCATION

Ph.D in Cognition and Cognitive Neuroscience and Scientific Computing

University of Michigan, Ann Arbor, MI *(GPA 4.00/4)*   September 2023 to now
- *Cognition and Cognitive Neuroscience, Psychology*
- *Double Major in Scientific Computing, Michigan Institute for Computational & Engineering*
- *Research Interests in Computational Modeling, Neural Network in Perception, Cognitive Neurodegeneration*

Master of Educational Psychology   August 2021
The University of Texas at Austin, Austin, TX
- *Counselor Education in Higher Education (GPA 3.96/4)*

Bachelor of Science in Mechanical Engineering   July 2013
Tongji University, Shanghai, China
- *Major in Automotive Engineering (GPA: 3.84/5)*

HONORS AND AWARDS

Professional Development Travel Award, University of Texas at Austin   April, 2021

PUBLICATIONS

Academic Books:
Zhou, Q., Lessard, A., Benton, G., & Polk, A. T., Dedifferentiation of neurocognitive function in aging. *Encyclopedia of the Human Brain, 2nd edition (2023)*

Peer-reviewed Paper:

Zuppichini, M., Hamlin, A., **Zhou, Q.,** Kim, E., Rajagopal., S., Beltz, A., & Polk, A.T., GABA Levels Decline with Age: A Longitudinal Study. *Imaging Neuroscience Journal (under review)*

Michon, K. J., Qu, S., **Zhou, Q**., Osborne, J., Jonides, J., Beltz, A., & Polk, A. T., (in prep.) Examination of person-specific functional organization of cognitive control using precision neuroimaging.

CONFERENCE PRESENTATIONS

Poster Presentation
Zhou, Q., Kim, E., Reardon, N., Wyatt, K. (2024, April). GABA and Glutamate/Glutamine Concentration within Auditory Cortex Correlate with Age-related Hearing Loss in Older Participants. *Poster session presented at the Cognition Neuroscience Society, Toronto, Canada.*

Zhou, Q., Qu, S.J., Kim, E., (2023, March). Longitudinal Changes of Resting-State Functional Connectivity in Healthy Older Adults. *Poster session presented at the Cognition Neuroscience Society, San Fransisco, CA, USA.*

Capao, R., & **Zhou, Q**. (2021, April). *Cross-Cultural Variation in Experience in a Teaching Task*. Poster session presented at the biennial meeting of the Society for Research in Child Development, Virtual.

RESEARCH EXPERIENCE

Cognitive and Computational Neuroscience Lab, University of Michigan at Ann Arbor

Lab Manager (PI: Thad Polk)   *November 2021 – Sept. 2023*

- Study coordinator for NSF funded longitudinal project of Michigan Neural Distinctiveness Study (MiND), responsibilities include recruitment, screening, data-analysis, presentation, etc.
- Administer over 180 hours of neuropsychological testing, fMRI/MRS scans, score cognitive tasks, data entry, and manage complex behavioral database
- Create, update, and version control of neural-imaging data-analysis scripts using Linux Bash, Matlab, and R studio
- Neuroimaging data analysis for both fMRI tasks and MRS data using Matlab, SPM12, Gannet, and FreeSurfer
- Managerial and administrative responsibilities include completing data requests, reimbursing expenses, organizing lab meetings, and journal clubs, maintaining lab website and space
- Trained and mentored undergraduate research assistants
- Clinical case presentation, data collaborate with researchers of psychiatric department

Research Assistant

Advisor: *Dr.Cristine H. Legare*

Project: *EVO Lab of Children's Cognitive Developmental Psychology, UT Austin, January 2020 – August 2021*

- Contribute to the cross-cultural research on cultural variation in social learning of children.
- Administered standarized protocols and cognitive assessment for children in 4-12 years old and conduct surveys to the parents.
- Enter data to excel of multiple experiments from nine study sites worldwide.
- Conduct video coding for cognitive tasks for children in study sites in Africa, Malaysia, and Sydney.

Project Researcher

Advisor: *Dr. Cristine H.Legare*

Project: *Cross-Cultural Variation in Experience in a Teaching Task, UT Austin, November 2020 – April 2021*

- Conduct a cross-cultural study on peoples' knotting experience, knotting skill development, and the diversity of teaching styles and cultural learning patterns.
- Contribute to the design of the study, literature review, and report writing
- Disseminate results through SRCD conference pesentation
- Develop the skills of R programming and data analysis.

Project Researcher

Advisor: *Dr.Cui Xiaoyu*

Project: *The Characteristics of Age-related Memory Impairment, Chinese Academy of Science, May 2018 – October 2018*

- Accomplished a project on aging and memory listed as the project of Chinese Academy of Sciences.
- Contributed to the literature review on the concepts and theories of memory.
- Translated and administered the Mnemonic Similarity Task (MST) assessment on elderly patients.
- Contributed to the design of the protocol to evaluate old people's cognitive impairment.

TEACHING EXPERIENCE

HPO Graduate Intern, August 2020 – May 2021

- Provide direct coaching service to more than 12 students per week in health professions pathways.
- Manage caseload including both coaching appointment and Walk-In-Wednesday sessions.

- Develop skills in Motivational Interviews, Solution-Focused Brief Therapy, and Cognitive-Behavioral Therapy.
- Accomplished the design and contribute to content in more than five official handouts books.
- Created students' emergency referral services and procedures.

Strategy Tutor for Athletic Students, September 2020 – May 2021
- Offered consistent tutoring for four students across the semester to achieve their academic goals.
- Successfully helped them to improve their scores and attempt to get final grades in A or A-.
- Facilitate students to develop skills in time management, stress relief, study habits, and exam strategies.
- Succeed in building rapport with students and empower them to manage the challenges in the future.

Teacher Assistant in Dallas Public Adult Learning Team, December 2018 – September 2019
- Worked as a GED (General Education Development) teacher and help adult students learning Math and English Language.
- Guided and supported students to build strategies in taking GED exams.
- Developed skills of multicultural counseling and gained in-depth understanding of multiculturalism.

EMPLOYMENT EXPERIENCE

Inclusive Culture Liaison of LSA department, June 2022 – September 2023
- Organize, disseminate, and attend diversity, equity, and inclusion workshops in LSA department
- Contribute to the montly DEI meetings
- Advocate for staff members, students, and international researchers and scholars from underrepresentative communities

Tele-Mental Health Counselor, June 2017 – September 2019
- Offered tele-mental health services for more than 50 individuals from underdeveloped area with limited mental health resources.
- Responded to thirty online inquiries per week and provided five individual sessions per week.
- Participated in online courses and continuous educational trainings.

Vehicle Network Engineer & Project Manager, Shanghai General Motors, July 2013- March 2018
- Program manager for Telematics Diagnostic System of vehicle remote testing and validation.
- Developed Internet-of-Vehicle system including systematic framework design, website design, system transmission protocol formulation, program testing and validation.
- Outstanding Project of Pan Asia Technology Innovation, The First Prize of SAIC Motor Technology Innovation, Excellent Employee of the year.

COMMUNITY SERVICES

Volunteered for Jill Stone Elementary School, Dallas, October 2018 – September 2019
- Reading parterner for students who spoke English as a second language in an under resourced Latino community.
- Provide students with the proven, individualized reading support they need to read at their grade level.
- Evaluated student's cognitive development and advocated for children with special needs.

Volunteered for AAPI Community Activities, March 2021
- Volunteered for Anti AAPI Racism Rally at metro-Detrioit area.
- Connected and organized people from diverse backgrounds in the community to advocate for equity.

- Joined local organization to further support AAPI community and anti-racism activities.

OTHER SKILLS

- Programming skills: Matlab, R Studio, Python, C++,
- Neuroimaging Data-Analysis Softwares: SPM 12, FreeSurfer, Gannet, CONN
- Language skills – proficient in Mandarin and Englis