Wei Deng

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Google Scholar: https://scholar.google.com/citations?user=LPE5OYAAAAAJ&hl=en

EDUCATION

University of Minnesota - Twin Cities **Minneapolis, MN**
M.S. in Rehabilitation Science (Medical School) 2020/09-2022/08
Minor: Biostatistics (School of Public Health)
Beijing Sport University **Beijing, China**
B.A. in Kinesiology (School of Sport Science) 2015/09-2019/06
Exchange experience: one year at the University of Minnesota-Twin Cities as a student in Kinesiology (2018/09-2019/05)

SKILLS

- **Computer Skills:** RStudio, Python (Numpy, Pandas, Matplotlib, Seaborn), NVivo (qualitative analysis), Vicon Nexus (biomechanics data), REDCap (clinical data collection), Microsoft suite
- **Data analytics skills:** T-test, ANOVA, Regression analysis, Linear Mixed-Effects Model, Generalized Linear Mixed-Effects Model, Rasch analysis, Thematic analysis, Biomechanics analysis
- **Languages:** English (business proficient), Chinese (Native)
- **Certifications:** Supervised Machine Learning: Regression and Classification (DeepLearning.AI & Stanford University, Coursera)

WORK EXPERIENCE

University of Pittsburgh and Veterans Affairs **Pittsburgh, PA**
Clinical Research Coordinator II 2020/10-Current

- Completed two human–robot interaction studies for power wheelchair users, analyzing 200 trial datasets (operation time, mode switching) and qualitative data (interviews) to evaluate user control performance and user experience with assistive robotic arms in daily activities.
- Identified factors influencing user control preferences and translated findings into insights to guide future research on user-centered design and real-world applications.
- Conduct one lower-limb exoskeleton gait study for individuals with knee osteoarthritis, comparing walking biomechanics with and without the device, focusing on gait pattern and user comfort. (ongoing data analysis)
- Manage 10 assistive technology research projects, including protocol and paper writing, IRB submissions, participant recruitment, and multimodal data collection
- Mentored two junior research coordinators and trained research team members in document editing, IRB regulations, and research compliance.
- Co-authored 2 peer-reviewed papers (second author). And presented findings at the American Congress of Rehabilitation Medicine conference (ACRM) (Nov 2024)

University of Minnesota-Twin Cities **Minneapolis, MN**
Graduate Research Assistant 2020/09-2022/08

- Completed 2 clinical trials on body awareness interventions on people with spinal cord injury with neuropathic pain; achieved pain reduction and motor and sensory function improvement.
- Managed clinical data collection via REDCap, and used T-tests to compare multiple outcomes, including neuropathic pain level, sleep quality, mental health, and achievement of personal goals.
- Conducted fMRI scans to examine participants' brain function, comparing pre- and post-therapy intervention
- Contributed to 3 peer-reviewed publications. Designed and presented the research posters at national conferences.

University of Minnesota-Twin Cities **Minneapolis, MN**
Lab Assistant 2019/08

- Assisted in participant recruitment participant recruitment and data collection at large community events; over 500 samples collected in five days.
- Applied Rasch Model to validate questionnaires and evaluate mental well-being and body awareness across different population groups, supporting potential clinical applications.
- Published 3 peer-reviewed papers, including 2 as the first author, and presented results at the ACRM conference.

SELECTED PEER-REVIEWED PUBLICATIONS

- Styler, B. K., **Deng, W**., Chung, C.-S., & Ding, D. (2025). Evaluation of a Vision-Guided Shared-Control Robotic Arm System with Power Wheelchair Users. Sensors (Basel, Switzerland), 25(15), 4768. https://doi.org/10.3390/s25154768
- Carpentier, S., **Deng, W**., Blackwood, J., & Van de Winckel, A. (2024). Rasch validation of the revised body awareness rating questionnaire (BARQ-R) in adults with and without musculoskeletal pain. BMC Musculoskeletal Disorders, 25(1), 799–12. https://doi.org/10.1186/s12891-024-07893-1