Preston S. Menke

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Education

Institutions

- Wright State University Human Factors and I/O Psychology - PhD   *Expected Spring 2025*
  - GPA 3.9
  - Member of the ASTECCA & ECOLE Laboratory at Wright State
  - College of Science and Math Representative
  - Research Interests: Higher-Order Cognition, Learning, Human-Computer Interaction, Trust, Flow, Explainable Artificial Intelligence, Gamification
- Alumnus of Erskine College - Bachelor of Science   *May 2021*
  - Majors in Psychology, Biology, and Health Science
  - Psychology honors thesis on Human-Computer Interaction & Coordination
  - Biology thesis on Biofeedback Technology
  - Near completion of minors in English and Business Healthcare
- Project Lead the Way: Intro to Engineering Program   *May 2017*
  - Coursework: Engineering Methods, Aerospace Engineering, Digital Electronics, Computer Engineering, Computer-Integrated Manufacturing, Product Design
  - Training in 3D design (Autodesk), Circuit Boards, Soldering, Six Sigma Techniques, Wind Tunnel Testing
  - Projects: Computational flight testing, mini-golf construction, product modeling, and capstone project (Desktop Fidget Device)

Extracurricular

- Certificates   *2018-2023*
  - Tech: Google IT Professional, Amazon Web Services
  - Healthcare: Youth Protection Training, First Aid, CPR, AED, Mental Health
  - Research: Responsible Research, Privacy and Security, Social and Behavioral, Conflicts of Interest, Biomedical Research
- 100+ hours of medical professional shadowing experience
  - Chiropractic   *Fall 2018*
  - Physical Therapy & Athletic Training   *Spring 2019*
- 3D Asset Development
  - 3D Modeling: Autodesk (2014-2017), Blender (2020-2023), Cura (2022)
  - Unreal Engine (2016-2023), Unity (2022)
- Computer Skills
  - Microsoft Suite, Cognitive Architecture (ACT-R), LISP, HTML/CSS, JavaScript, jQuery, Java, SQL, Python, R, Julia, Regex, C++, Tableau, SAS, SPSS, Agile, Scrum, Markdown, Vercel Web Deployment, Git, Synology Systems, JPathfinder, Electroencephalography
- Software Development
  - Undergraduate Research Software   *Fall 2019*
  - Covid-19 Awareness Demo   *Fall 2020*

- o   M.S. Thesis Software   *Spring 2022*
- o   Collaboration - Cyberball: Ostracism Research Software   *October 2023*
- o   Collaboration - Learning Web Workflows (prestonmenke.com)   *Fall 2023*
- o   Game Studio Projects: [Multiplayer Game], [AI Game]   *Expected Completion 2024*

Employment Information

- Erskine College   *August 2019-May 2021*
  - o   Convocation AV/IT Team Lead
  - o   Resident Assistant
- Tech Talent and Strategy
  - o   TA: Advanced Java, Full Stack Bootcamp, Advanced Data Science   *2020*
  - o   Lead Instructor: Introductory Data Science, Advanced Data Science   *2020-Present*
  - o   Facilitate the development and updating of curriculum (statistics, machine learning)
- Wright State University
  - o   Intro Psychology Lab Instructor   *Fall and Spring 2021*
  - o   Research Methods Lab Instructor   *2022-2023*
- Air Force Research Laboratory Repperger Intern   *Summer 2023 (3 Months)*
  - o   Title: "Agents for Co-Training and Knowledge Capture"
  - o   Supervisor: Jayde King, Research Psychologist at Air Force Research Laboratory
  - o   Critical Technology Areas: Human-Machine Interfaces, Trusted AI and Autonomy
  - o   Produced manuscript and code sample outlining autonomous mental model elicitation and visualization for trusted Human-AI Co-Learning
  - o   Presented research at Repperger Intern Poster Session, AFRL Intern Poster Session
- Air Force Research Laboratory XAI Intern   *Summer 2023 (2.5 Months)*
  - o   Title: "Validation and Testing of Novel XAI-iML Analytics Software"
  - o   Supervisor: Ian Joyce, XAI Tech Lead at Air Force Research Laboratory
  - o   Critical Technology Areas: Human-Machine Interfaces, Trusted AI and Autonomy
  - o   Produced manuscript and experimental design for multistage meta-analysis to test a Human-Machine Interface for Explainable Artificial Intelligence software across professional medical domains under the Department of Defense
  - o   Familiarized with Air Force Research Laboratory structure and Lines of Effort

Research Experience

- Undergraduate Honors Psychology Thesis   *Fall 2019 – Spring 2021*
  - o   "Specialized Coordination: Adaptation to a Digital Interface"
  - o   Presented at Carolinas Psychology Conference   *April 2020*
  - o   Solo developer of software and data pipeline
  - o   Document accepted for Honors Capstone   *Spring 2021*
- Biology Senior Research   *Fall 2020 – Spring 2021*
  - o   "Biofeedback in Technology"
  - o   Presented at Erskine Biology Senior Seminar   *Spring 2021*
- M.S. Thesis   *Fall 2021 - Spring 2024*
  - o   "Benefits and Costs of Peer Assisted Learning in a Complex Task"
  - o   Developer of software and data pipeline
  - o   Defense Presentation   *Expected January 2024*
- Graduate Program Presentations

- - First Year Experience: Peer-Assisted Learning in MAT-PAL *Fall 2022*
  - Affective Computing *Spring 2023*
- Counter Productive Work Behavior Meta-Analysis *2021 - Present*
- Society of IO Psychology Presentation *Spring 2023*
  - "Ramsey, et al. (2023). Examining the Validity of Instructional Manipulation Checks as Measures of Careless Responding."
- Peer-Assisted Learning Research *2022*
  - "Juvina, I., Carson, J., Menke, P., & Crowe, P. (2022). Knowledge spillover, trust, effort, and error exposure in peer-assisted learning."
- Flow Textbook Chapter *In Review*
  - "Human-AI Coordination to Induce Flow in Adaptive Learning Systems"
- Cyberball: Ostracism & Fractal Research Study *Prepared for Spring 2024*
  - Co-developer of software
  - Trailing author
- Evaluating Construct Validity of Instructional Manipulation Checks *In Review*
  - "Ramsey, M. C., Bowling, N. A., & Menke, P. M. (2023). Evaluating the Construct Validity of Instructional Manipulation Checks as Measures of Careless Responding. Submitted to Applied Psychological Measurement. Under Review. Received Revise and Resubmit 11/12/2023."

Honors and Awards

- NCAA Athletic Scholarship Recipient *2017*
- Receiver of Steven A. Winburn Memorial Scholarship *2020*
  - "Based upon social, religious, and academic achievements and activities as well as character references and are renewable provided recipients maintain the high standards of the award."
- Dr. M. Burton Brown Award from the Department of Psychology *2021*
  - "Erskine College presents the Department of Psychology and Sociology, Dr. M. Burton Brown Award to Preston Menke, as the most outstanding psychology student in academic achievement and as a contributor to campus life."
- Circle of Leaders Award *2021*
  - "This award recognizes graduating seniors whose leadership has made a lasting impression on the Erskine community."
- Awarded Air Force Research Laboratory Internships *2023*
  - Selected for the Repperger internship, a competitive opportunity to intern with the 711th Human Performance Wing. When Repperger concluded, AFRL offered me a subsequent internship as a sole Human Factors researcher on a team of data scientists, software developers, and medical professionals.

Graduate Coursework

- General: Cognition, Social, Experimental Design and Quantitative Methods, Experimental Design with ANOVA, Measurement Models, History, Ergonomics, Task and Work Analysis, Predictive Models (Spring 2024)
- Human Factors: Cognitive Computational Modeling, Cognitive Neuroscience, Ecological Interface Design, Engineering Psychology (Spring 2024), Perception (Spring 2024)

- IO Psychology: IO Research Methods, Personality, Psychometrics, Personnel Selection

Relevant Undergraduate Coursework

- Professional Psychology, History and Systems of Psychology, College Statistics, Experimental Methodology, Psychological Statistics, Psychology Honors Senior Seminar, Psychology Honors Research, Biology Senior Seminar I and II

Undergraduate Involvement

- Intersociety Council Chair
  - Led governing body and presided over all campus literary societies
  - Re-established yearly debate competition among societies after Covid-19
  - Res-established and wrote constitution of Intersociety
  - Interfaced and compromised between campus faculty and societies
  - Represented the Intersociety Council to the Student Government Association
- Erskine Activity Board Chair
  - Led team in conjunction with campus faculty to put on campus events
- Euphemian Building Restoration Committee Chair (ongoing)
  - Facilitated communication between campus board, historical society, alumni office, president's office, literary society, and others involved in restoration of a historical site
- Psychology Club President
  - Facilitated campus psychology events and mental health awareness
- eSports Club President
  - Established club to interface eSports with campus life
  - Wrote constitution and successfully petitioned society
  - Attended TD SYNNEX Technology Conference
- Euphemian Literary Society Vice President
  - Contributed to campus life through events and community outreach
- Student Government Secretary
  - Kept notes of docket items discussed during student government meetings and cabinet meetings
- Junior Class Secretary
- Euphemian Literary Society Secretary
- Intersociety Treasurer
- Convocation AV/IT Team Leader
  - Directly worked with faculty and convocation presenters twice a week
  - Directly assisted campus chaplain for all tech needs
  - Responsible for AV systems in campus auditoriums
- Resident Assistant
  - Maintained campus housing and ensured safety of residents
  - Facilitated dorm events
  - Directed students to any of the professional resources on campus
  - Participated in community outreach
- NCAA
  - Participated in 3 seasons of basketball, and a pre-season of volleyball, at the Division II and I level, respectively