John Clapham, Ph.D.

Graduate Student
Computer Science Department, William & Mary
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RESEARCH INTERESTS

Sensor systems, mobile computing, action localization and measurement, inertial sensors, computing for health and wellness, nutrition, human-centered computing

EDUCATION

William & Mary, Williamsburg, VA

Doctor of Philosophy in Computer Science *2021 – 2025*
Dissertation Title [Defended Successfully]: Ubiquitous Intelligent Sensor Systems for Health and Wellness
Advisor: Dr. Gang Zhou

Master of Science in Computer Science *2021 – 2023*
Master's Project Title: Anaximander: Crowdsourced Visualization of Signal Strength
Advisor: Dr. Gang Zhou

Bachelor of Science in Computer Science *2017 – 2021*

ACADEMIC POSITIONS

William & Mary, Williamsburg, VA

Graduate Research Assistant *May 2023 - Present*

Graduate Teaching Assistant *Jan 2023 - May 2023*

HONORS & AWARDS

1. IEEE TCI Student Travel Award *2025*
2. Best Paper Award, ACM/IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE) *2025*
3. NSF Student Travel Award *2024*
4. Best Paper Award, ACM/IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE) *2024*

RESEARCH

Refereed Conference Papers

1. John Clapham, Michelle Zhou, Collin MacDonald, Kenneth Koltermann, Ye Gao, Huajie Shao, "ElectroMeter: The Practical Electrolyte Measurement System," in *ACM/IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)*, New York City, NY, 2025.
2. Chen Qian, Chuntian Chi, John Clapham, Jiarui Qi, Zherui Zhang, Ginamari Blackwell, Ingrid Pretzer-Aboff, Leslie Cloud, Meiyi Ma, Gang Zhou, Huajie Shao, "Trigger-Finder: A Real-Time Freezing-of-Gait Trigger Detection System Using an Instruction-Tuned Multimodal Large Language Model," in *ACM/IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)*, New York City, NY, 2025.
3. Xinyu Chen, Kenneth Koltermann, John Clapham, Ginamari Blackwell, Leslie Cloud, Ingrid Pretzer-Aboff, Huajie Shao, Gang Zhou, "WaveTremor: Tremor Detection for Parkinson's Disease via Spatial-Temporal Learning," in *ACM/IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)*, New York City, NY, 2025.

4. John Clapham, Kenneth Koltermann, Xinyu Chen, Minglong Sun, Evie Burnet, Gang Zhou, "ToPick: Time-of-Pickup Measurement for the Elderly using Wearables," in *ACM/IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)*, Wilmington, DE, 2024.
5. Kenneth Koltermann, John Clapham, Ginamari Blackwell, Woosub Jung, Evie Burnet, Ye Gao, Huajie Shao, Leslie Cloud, Ingrid Pretzer-Aboff, Gang Zhou, "Gait-Guard: Turn-aware Freezing of Gait Detection for Non-intrusive Intervention Systems," in *ACM/IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)*, Wilmington, DE, 2024.

Invited Scholarly Talks

1. Invited Talk "Ubiquitous Intelligent Sensor Systems for Health and Wellness," BioMath Seminar at William & Mary.
2. Invited Lecture "ToPick: Time-of-Pickup Measurement for the Elderly using Wearables," CSCI619 Ubiquitous & Mobile Computing at William & Mary.
3. Invited Talk "Fall Prevention Research," Williamsburg Landing Retirement Community 2024.

PROFESSIONAL SERVICE

University Committee Service

Graduate Student Association Financial Committee *2023*
Graduate Student Association Computer Science Representative *2023*

Paper Reviewing

ACM Transactions on Computing for Healthcare *2025*