

Emaly Vatne

Columbus, OH | Sterling Heights, MI

Email: emalyvat@gmail.com | Portfolio: <https://emalyvatne.github.io/>

EDUCATION

- DOCTOR OF PHILOSOPHY:** The Ohio State University, Columbus, OH
Kinesiology, Health and Exercise Science
Dissertation Topic: “Assessing the Effects of Contextual Factors on Objective Sleep and Recovery Characteristics in Collegiate Female Ice Hockey Athletes”
Projected: 2026
- MASTER OF SCIENCE:** The Ohio State University, Columbus, OH
Kinesiology, Health and Exercise Science
Thesis: “[Season-Long Sleep and Cardiac-Autonomic Stress Monitoring in Collegiate Women’s Ice Hockey](#)”
Awarded: 2023
- BACHELOR OF SCIENCE:** The Ohio State University, Columbus, OH
Kinesiology, Health and Exercise Science
Undergraduate Minor in Human Nutrition
Awarded: 2021
- CERTIFICATE:** Johns Hopkins University, Coursera
Data Science: Foundations using R Specialization
Awarded: 2023

PROFESSIONAL EXPERIENCE

The Ohio State University

Assistant Sport Scientist

Graduate Research Associate

July 2024 – Present

May 2022 – July 2024

[Ohio State Department of Athletics](#) and [Human Performance Collaborative](#)

- Lead data cleaning, integration, and advanced analytics (**R, Python, JMP**) for 1000+ varsity athletes and 10+ performance technologies, delivering real-time insights through **RShiny, Streamlit, Power BI, and Teamworks AMS** (formerly Smartabase)
- Conceptualize, design, and author manuscripts on recovery science, athlete monitoring, and applied data science, informing evidence-based coaching and support strategies
- Support day-to-day athlete monitoring and profiling while co-building a Microsoft-based data ecosystem (ETL pipeline and Power BI), ensuring quality data collection and efficient technology implementation for Ohio State Athletics

Ohio National Guard and National Guard Bureau

X-Force Fellow in Data Engineering and Data Science Research

National Security Innovation Network

May – August 2023

- Researched data ecosystem approaches to handle datasets related to the Holistic Health and Fitness (H2F) system from the National Guard of all 54 states and territories

- Created a prototype PowerBI dashboard for soldiers to view their historical and predict future Army Combat Fitness Test scores
- Conceptualized a modern data architecture with the Microsoft Enterprise that was presented to Senior Leaders of the National Guard Bureau in Washington, D.C.

Orlando City Soccer Club

Data Analytics Intern

January – May 2023

Department of Analytics

- Cleaned and analyzed datasets from a season of games that each include 300000+ rows from optical soccer tracking technologies to objectively assist technical staff under the direction of Caleb Shreve and Grant Rhines
- Created an RShiny App that was deployed on the club's ShinyProxy server as a Docker image
- Provided a literature review that described the growing area of contextualizing external load using technical tracking and event data in elite soccer

The Ohio State University

Undergraduate Research Assistant

January 2021 – December 2022

MOvES Lab

- Supported data collection and analysis from kinematic (Vicon, Theia, HumanTrak) and kinetic (Bertec, VALD, Hawkin Dynamics) measurement tools for sports medicine research under the direction of Dr. James Onate, Ph.D, AT, ATC
- Completed literature reviews to assist with on-going sports medicine research projects

Women in Sports Tech and Perch

Fellow and Data Science Intern

May – August 2022

- Processed velocity-based training data using Python and R to measure bilateral imbalances and other key performance indicators
- Contributed to the development of presentations that demonstrated trends and insights to various professional sports organizations

The Ohio State University

Undergraduate Strength and Conditioning Intern

Ohio State Department of Athletics

May – August 2021

- Observed and assisted day-to-day strength and conditioning operations with The Ohio State University varsity women's basketball team

PEER REVIEWED ARTICLES

1. **Vatne, E.**, Vatne, M., Cencer, D., Saenz, C., Kraemer, W.J., Robinson, B., Jones, P., Stone, J., Merrigan, J., Carpenter, T., Hagen, J. The Impact of Team Practice Block Start Times on Sleep Characteristics in Collegiate Athletes. *Journal of Strength and Conditioning Research*. *Accepted*.
2. Kraemer, W.J., **Vatne, E.A.**, Saenz, C., Jones, P.C., Carpenter, T., Cencer Jr, D.A., Enchelmeyer, K.E., Pulvermacher, K., Quebedeaux, C., Vatne, M., Hagen, J.A. (2025). Neuromuscular Profiles of Female Collegiate Athletes: Variations in Countermovement Jump Metrics Across Eight NCAA Division I Sports. *Journal of Strength and Conditioning Research*. *Accepted*.
3. **Vatne, E.**, Merrigan, J.J., Stone, J.D., Saenz, C., Kraemer, W.J., Hagen, J.A. (2025). Effects of Daytime Floatation-REST on Nocturnal Cardiovascular Physiology, Sleep, and Subjective Recovery in Collegiate Student-Athletes: A Comprehensive Observational Study. *Journal of*

Strength and Conditioning Research. XX(X): 000-000.

<https://doi.org/10.1519/jsc.0000000000005131>

4. Yazbeck, M., Abdullah, M., Alhanouti, S., **Vatne, E.**, Hagen, J., Allen, T. T., & Krening, S. (2025). Perfect shot reveal: Machine learning analysis of goal-scoring strategies in soccer. *International Journal of Sports Science & Coaching*, 0(0).
<https://doi.org/10.1177/17479541251333941>
5. Saenz, C., Sanders, D. J., Brooks, S. J., Bracken, L., Jordan, A., Stoner, J., **Vatne, E.**, Wahler, M., & Brown, A. F. (2024). The Relationship Between Dance Training Volume, Body Composition, and Habitual Diet in Female Collegiate Dancers: The Intercollegiate Artistic Athlete Research Assessment (TIAARA) Study. *Nutrients*, 16(21), 3733.
<https://doi.org/10.3390/nu16213733>
6. Merrigan, J. J., Stone, J. D., Kraemer, W. J., **Vatne, E. A.**, Onate, J., & Hagen, J. A. (2024). Female National Collegiate Athletic Association Division-I Athlete Injury Prediction by Vertical Countermovement Jump Force-Time Metrics. *Journal of strength and conditioning research*, 38(4), 783–786. <https://doi.org/10.1519/JSC.0000000000004758>
7. Merrigan, J. J., Stone, J. D., Kraemer, W. J., Friend, C., Lennon, K., **Vatne, E. A.**, & Hagen, J. A. (2024). Analysis of Sleep, Nocturnal Physiology, and Physical Demands of NCAA Women's Ice Hockey Across a Championship Season. *Journal of strength and conditioning research*, 38(4), 694–703. <https://doi.org/10.1519/JSC.0000000000004678>

PEER REVIEWED ARTICLES UNDER REVIEW & IN PREPARATION

8. **Vatne, E.**, Oliva-Lozano, J.M., Saenz, C., Cost, R., Hagen, J.A. (in-revision). Post-Exercise Recovery Modalities in Male and Female Soccer Players Of All Ages And Competitive Levels: A Systematic Review. *Biology of Sport*
9. **Vatne, E.**, Vatne, M., Cencer, D., Kraemer, W.J., Saenz, C., Robinson, B., Stone, J., Merrigan, J., Pulvermacher, K., Dial, M., Jones, P., Montelbano, A., Carpenter, T., Hagen, J.A. (in-revision). Establishing Comprehensive Normative Values of Objective Sleep Quantity and Quality in Collegiate Athletes. *Journal of Strength and Conditioning Research*.
10. Dial, M., Hollander, M., Emerson, A., **Vatne, E.**, Edwards, N., Hagen, J. (under review) Validation of Nocturnal Resting Heart Rate and Heart Rate Variability in Consumer Wearables. *Physiological Reports*.
11. **Vatne, E.**, Vatne, M., Cencer, D., Kraemer, W.J., Robinson, B., Jones, P., Stone, J., Merrigan, J., Carpenter, T., & Hagen, J. (under review). Relationship Between Objective Measures of Sleep and Nocturnal Cardiovascular Physiology and Swimming Performance in Collegiate Female Athletes. *International Journal of Sports Science and Coaching*.
12. **Vatne, E.**, Ulman, H., Vatne, M., Cencer, D., Merrigan, J., Stone, J., Pulvermacher, K., Robinson, B., Saenz, C., & Hagen, J. (in preparation). Criterion validity of open-source methods for processing R-R intervals to determine time-domain heart rate variability metrics. *International Journal of Exercise Science*.

PEER-REVIEWED PUBLISHED ABSTRACTS

1. **Vatne, E.,** Vatne, M., Cencer, D., Saenz, C., & Hagen, J. (2025). Acute increases in time in bed associated with improved competition performance in female collegiate swimmers. *Female Athlete Conference*.
2. **Vatne, E.,** Saenz, C., Merrigan, J. J., & Hagen, J. A. (2023). Cardiac-autonomic markers of recovery improve immediately following a flotation-restricted environmental stimulation therapy session in NCAA athletes. *Journal of Strength and Conditioning Research*.
3. Merrigan, J. J., **Vatne, E.,** Kraemer, W. J., & Hagen, J. A. (2023). Identifying force plate metrics associated with injury risk in NCAA Division-I female team-sports. *Journal of Strength and Conditioning Research*.
4. Edwards, N., **Vatne, E.,** Beach, T., Caccese, J., Merrigan, J., Hagen, J., Stone, J., & Onate, J. (2022). Special weapons and tactical officers have equal loaded and unloaded countermovement jump performances. *Medicine & Science in Sports & Exercise*.

UNPUBLISHED AND INVITED PRESENTATIONS

The following symbols represent: *Student author and ^work completed by a student mentee.

1. Saenz, C., **Vatne, E.** (2025). Data-Driven Athletics: How Catapult Enhances Performance and Rehab. Invited presenters at the 2025 University of Maryland Summer Educational Series.
2. **Vatne, E.** (2025). Going Beyond Another “Ask”: Force Plates as a Tool for Athlete Education and Empowerment. Invited presenter at the 2025 Hawkin Dynamics Conference.
3. Carpenter, T., Jones, P., **Vatne, E.,** Cencer, D., Enchelmeyer, K., Vatne, M., Pulvermacher, K. (2025) Strength in Structure: Integrating Sport Science for Peak Performance Across 36 Sports. *Collegiate Strength and Conditioning Coaches Association*.
4. *^Boman, T., **Vatne, E.,** Vatne, M., Cencer, D., Jones, P., Carpenter, T., & Hagen, J. (2025). Impact of team travel on hitting performance in collegiate softball. Abstract submitted to the 2025 Ohio State Sports Analytics Conference.
5. **Vatne, E.** (2025). Data systems and management in sport. Invited panelist at the 2025 Ohio State Sports Analytics Conference.
6. Vatne, M., & **Vatne, E.** (2024). Microsoft Fabric for Ohio State Athletics: Purpose, technical components, and practical applications. Invited presentation for Microsoft Data Science and AI Azure Technical Hour.
7. **Vatne, E.** (2024). Distinguishing important from interesting: Informing tactical, physical, and recovery periodization with physical and technical performance data. Podium presentation at the Women in Sports Data Symposium.
8. **Vatne, E.,** Saenz, C., & Hagen, J. (2023). Comparison of subjective feedback towards wet versus dry flotation-restricted environmental stimulation therapy in college students. Poster presentation at the EHE Graduate Research Forum.

HONORS, ACTIVITIES, AND LEADERSHIP

Robert N. and Sharon S. Gandee Endowed Scholarship Fund, \$1,407.

2023

Woody and Anne Hayes Award Recipient, \$3,000.	2023
Big Ten Conference Outstanding Sportsmanship Honoree	2023
All-Big Ten Sportsmanship Team	2022
All-District Academic Honoree	2022
Big Ten Distinguished Scholar	2021
Academic All-Big Ten Honoree	2019, 2020, 2021, 2022
Ohio State Athletics Scholar Athlete	2019, 2020, 2021, 2022
All-Big Ten Freshman Team Honoree	2018
Big Ten Freshman of the Week	2018
U.S. Under-18 Youth National Team Member	2017 – 2018

Professional Trainings and Certifications

Microsoft Certified: Azure Data Fundamentals	2023
Microsoft Certified: Fabric Analytics Engineer Associate	2024
NSCA Certified Strength and Conditioning Specialist	2021 – Present
ACSM Certified Exercise Physiologist	2021 – Present
American Red Cross Adult CPR and First Aid	2018 – Present
CITI Biomedical Research Investigators	2022 – Present
CITI Biomedical Responsible Conduct of Research	2022 – Present

Activities and Leadership

The Ohio State University Varsity Women's Soccer	2018 – 2022
Team Captain	2021 – 2022
Spent 20+ hours per week training with and leading a diverse group of women to compete at the highest level nationally while maintaining a rigorous academic course load	

Ohio Premier Soccer Club and Upper Arlington High School

Ohio Premier Youth Academy Staff Coach	2019 – 2022
Ohio Premier Under-15 and Under-16 girls' teams Head Coach	2023 – 2024
Upper Arlington Junior Varsity girls' soccer team Head Coach	2023 – 2024

President, ACSM Exercise is Medicine Club at The Ohio State University	2021 – 2022
Invited Member, Lead Like a Buckeye at The Ohio State University	2021 – 2022

Professional Affiliations

National Strength and Conditioning Association (NSCA)	2020 – Present
American College of Sports Medicine (ACSM)	2020 – Present
Collegiate Strength and Conditioning Coaches Association (CSCCa)	2025 – Present