

**Julio Benjamin Morales, M.A., C.S.C.S.**  
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## **EDUCATION**

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- 2022 - Present     Louisiana State University  
**Doctor of Philosophy, Kinesiology**  
*Focus:* Applications of Machine Learning in Measurement Techniques for Motor Skill Assessments  
*Advisor(s):* Dr. Ryan Hulteen
- 2020 - 2022        Indiana State University  
**Master of Arts, Physical Education: Exercise Science**  
*Focus:* Counter-movement Vertical Jump Biomechanics  
*Advisor(s):* Dr. Alfred Finch, Dr. Heather Abbott C.S.C.S., USAW-ASPC
- 2016 - 2019        Lamar University  
**Bachelor of Science, Exercise Science and Fitness Management, Minor in Kinesiology**  
*Student-Athlete:* NCAA Division I FCS Track athlete (400m, 800, and 4x400m) in 2016-2020 and member of the Southland Conference Cross Country Championship team in 2016, 2017 and 2019

## **WORK EXPERIENCE**

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- Aug. 2024 – Present     Louisiana State University  
**Sports Science Project Coordinator**
- Responsible for coordinating impact sensor logistics, management of research team, and communication among key support staff.
  - Developed pipelining of Catapult performance data API for data visualization, reporting, and distribution for the NFL Instrumented Mouthpiece Study.
  - Facilitate collaborations among athletic development, athletic training, performance innovation, and player personnel for development of key performance insights for player health and performance initiatives.
  - Perform seasonal statistical modeling to examine data trends, and assess project compliance.
- Aug. 2022 – Aug. 2024     Louisiana State University  
**Graduate Teaching Assistant**
- KIN 1146: Weight Training – taught multiple periodization models (block linear, non-linear) and progressions/regressions within facility constraints.
  - KIN 1803: Team Activities in Coaching – covered coaching skills required to meet the demands of varying team sport dynamics.
  - KIN 2504: Principles of Conditioning Lab – taught aerobic and anaerobic assessments for performance and clinical populations.
  - KIN 3502: Testing and Measurement Lab – covered validity/reliability/methodology of numerous testing methods for components of physical activity and fitness.

Aug 2020 – May 2022

Indiana State University  
**Graduate Teaching Assistant**

- PE 380: Analysis of Human Movement; PE 484: Applied Biomechanics—undergraduate biomechanics lecture and lab class

**Sports Science Assistant**

- Aided sports science research, primarily through examining differences in jump testing analyses (Men’s Basketball) and assisting with Catapult analyses (Football).

Feb 2019 – Aug 2019

Lamar University  
**Strength and Conditioning Intern (300 hours)**

- Responsible for training session set-up, administration of exercise program to athletes, and coaching of workload modified athletes under guidance of strength staff (Soccer and Football)
- Aided in implementation of sprint development program (Soccer)
- Assisted with Football and Olympic Sports (Women’s Soccer, and Women’s Softball)

**SKILLS**

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**DATA COLLECTION**

Proficient in:

- Athlete Assessment: IMTP, RSI, RSI-mod, and Athletic Shoulder tests using VALD ForceDecks
- Load-velocity profiling using VBT systems (Gymaware, Vmaxpro)
- Sprint-velocity profiling using 1080 Sprint
- GPS load monitoring using Catapult (Optimeye S5)
- 2-D and 3-D Markered- and Markerless-Motion Capture for biomechanical analyses (Dartfish, OpenCap, R-processing, Python)

**DATA ANALYSIS**

Proficient in:

- Microsoft software (including Power BI), R (mostly used), SQL, and Python
- Data reporting and dashboard development (R)
- Understanding of database structures for calls (SQL Studio, RSQL, RDB)
- Inferential Statistics for KPI identification (R)
- Predictive Analytics and Supervised Machine Learning model development (R)
- API Integrations for VALD systems (R)

**CERTIFICATIONS**

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(Ant. July 2025)	<u>Datcamp</u> – Data Scientist with R Track (Completed Assessment Scores Available on Request)
2022 - Present	<u>National Strength and Conditioning Association</u> – Certified Strength & Conditioning Specialist (NSCA ID: 001069512, Certification ID: 7248460417)
2021 - Present	<u>American Heart Association</u> - Heartsaver First Aid, CPR & AED

**TEACHING EXPERIENCE**

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School of Kinesiology, Louisiana State University

- KIN 1146 Weight Training\*\*
- KIN 1801 Movement Techniques\*\*
- KIN 1803 Team Activities\*\*
- KIN 2504 Principles of Conditioning Lab\*\*
- KIN 3502 Testing and Measurement Lab\*\*

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Department of Kinesiology, Recreation, and Sport, Indiana State University

Analysis of Human Movement\*

Biomechanics of Sports Techniques\*

Applied Biomechanics\*

*Note. Courses Taught\*\*, Courses Assisted\**

## **RESEARCH**

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### Under-Review:

**Morales, J.B.** & Minor, B.M., Abbott, H. *Evaluating Jump Mat Performance: A Comparison with Force Plates During Countermovement Jumps.*

Submitted to: International Journal of Exercise Science

Gauss, T., Lormand, R., Yeomans, M., **Morales, J.B.**, Bonnet, C., Hondzinski, J., *Characteristics of standing postural sway without vision depend on the action and duration of stretched ankle muscles.*

Submitted to: Experimental Brain Research

### Selected Abstracts:

**Morales, J.B.**, Matthews, R., Lemoine, N.P., Marucci, J., Frakes, M., Flint, J., Kuehn, S., Pennella, J., Spielmann, G., Mullenix, S. & Johannsen, N.M. (2024) *Exploratory Data Analysis of Training Load Metrics in Division I Football Players.* American College of Sports Medicine Annual Meeting, Boston, MA, May 2024 (Poster Presentation).

Matthews, R., Lemoine, N.P., **Morales, J.B.**, Frakes, M., Marucci, J., Mullenix, S. & Johannsen, N.M. (2024) *Intra-Individual Variability in Sweat Responses of Division I Football Players During Fall Training Camp.* American College of Sports Medicine Annual Meeting, Boston, MA, May 2024 (Poster Presentation).

Morales, J, **Morales, J.B.**, Matthews, R, Santiago, J, A. (2024) *Examining Machine Learning Imputation Methods on Athlete Monitoring Assessments in Female Collegiate Volleyball.* American College of Sports Medicine Annual Meeting, Boston, MA, May 2024 (Poster Presentation).

**Morales, J.B.**, Morales, J., Santiago, J.A., Abbott, H., Finch, A.E. (2023) *Relationship between Vertical Stiffness and Reactive Strength Index Modified in College-Aged Males During Jumping.* International Society of Biomechanics in Sports Conference, Milwaukee, Wisconsin, July 2023 (Oral Presentation).

Morales, J, **Morales, J.B.** (2023) *In-season and Off-season Comparison of Fitness and Motor Performance Variables of Collegiate Female Volleyball Players.* American College of Sports Medicine Annual Meeting, Denver, CO, May 2023 (Poster Presentation).

**Morales, J.B.**, Kcehowski, K., Minor, B., Sweitzer, M., Abbott, H. (2022) *Effects of Varying Analysis Techniques on Reactive Strength Index-Modified*. 2022 National Strength and Conditioning Association Annual Conference, New Orleans, LA, July 2022 (Poster Presentation).

**Morales, J.B.**, Minor, B.M., Abbott, H. (2021) *Comparing Lower Extremity Stiffness Calculations in Division I Men's Collegiate Basketball Players*. 16<sup>th</sup> Annual Coaching and Sport Science College, Johnson City, Tennessee, December 2021 (Poster Presentation).

**Morales, J.B.**, Sweitzer, M.W., Abbott, H. (2021) *Relationship between Reactive Strength Index-Modified and Stiffness in Division I Men's Collegiate Basketball Players*. 16<sup>th</sup> Annual Coaching and Sport Science College, Johnson City, Tennessee, December 2021 (Poster Presentation).

**Morales, J.B.**, Jordan, S.L., Moore, A.D. (2020) *Relationship of Blood Lactate and Sweat Lactate to Exercise Intensity*. American College of Sports Medicine Annual Meeting, San Francisco, CA, May 2020 (Podium Presentation).

Thesis:

**Morales, J.B.** (2022). *Predicting Vertical Stiffness in College-Aged Males using Reactive Strength Index-Modified during Jumping*. Unpublished master thesis, Indiana State University, Terre Haute, Indiana.

## HONORS AND AWARDS

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- Major League Baseball, selected (out of 75 applicants) to participate in the Baseball Sports Medicine Workshop in the Diversity, Equity and Inclusion Program during MLB at Rickwood Program, 2024
- Louisiana State University, Completed the REACH Inclusive Mentor Training Program, 2022
- American College of Sports Medicine, Leadership and Diversity Training Program Level I, 2022
- Indiana State University, Nominated and Completed the Preparing Tomorrow's Faculty Graduate Teaching Program, 2021
- Indiana State University, Nominated for the Graduate Assistant of the Year Award, 2021
- Lamar University, Received recognition from the Office of Global Diversity and Inclusive Excellence for Hispanic Students, 2018, 2019
- Lamar University, Dean's list, 2018, 2019
- Lamar University, President's list, 2019
- Lamar University, Athletic Scholarship – Track and Field, 2017-2020

## GRANTS

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- Graduate Student Association Travel Award, Louisiana State University, 2024, (Funded \$200)
- College of Human Sciences & Education Travel Award, Louisiana State University, 2024, (Funded \$1000)

- College of Human Sciences & Education Travel Award, Louisiana State University, 2023, (Funded \$1500)
- Graduate Student Travel Award, International Society of Biomechanics in Sports, 2023, (Funded \$500)
- Graduate Student Travel Award, Indiana State University, 2022, (Funded \$500)
- Summer Undergraduate Research Fellowship Awardee, Lamar University, 2019. (Funded \$1000)
- Office of Undergraduate Research Grant Awardee, Lamar University, 2019. (Funded \$1000)

### **PROFESSIONAL AFFILIATIONS**

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- American College of Sports Medicine (2016-present)
- International Society of Biomechanics in Sports (2023-present)
- National Strength and Conditioning Association (2021-present)
- Professional Association of Volleyball Officials (2015-2020)
- Society of Hispanic Professional Engineers (2018-2019)