DARCI BILLMIRE

MS, PE

385.280.2715
dbillmire@explico.com

BIOMECHANICS

EDUCATION

BRIGHAM YOUNG UNIVERSITY

MS	Mechanical Engineering	**2023**
BS	Mechanical Engineering	**2021**

LICENSES & CERTIFICATIONS

Professional Engineer — UT
#14294859-2202

FAA Remote Pilot Certificate

AFFILIATIONS

Biomedical Engineering Society (BMES)
Orthopedic Research Society

PROFESSIONAL PROFILE

Ms. Darci Billmire received her BS in Mechanical Engineering from Brigham Young University. In her undergrad experience, she developed a love for problem solving and for the field of biomechanics and biomedical engineering. She completed a two year internship with BD Medical's R&D department during her undergrad experience that helped her gain a passion for research that led her to pursuing her Masters degree.

Ms. Billmire followed up her undergraduate career with gaining her Master degree from Brigham Young University where her research was centered around the pursuit of helping people with lower back pain. She was involved on a project that is developing a device to be used as a phenotypic tool on chronic lower back pain patients. Her person research involved upgrading the design of the device and using it to detect endurance muscle fatigue with the help of machine learning tools.

Ms. Billmire is starting out her forensic biomechanics career in the Salt Lake City office where she will aid in accident reconstruction and biomechanics analyses. She is excited to start her own career path to one day become a testifier and a useful reproduce for the Explico team to continue to pursue their goal of elevating the profession while maintaining the highest level of integrity and ethics.

AREAS OF EXPERTISE

MatLAB
Machine Learning
SolidWorks
Python

BILLMIRE

MS

EXPERIENCE

Explico

2025 - Present *Scientist*

2023 - 2024 *Associate Scientist*

Brigham Young University

2018 - 2023 *Graduate Research Assistant*

2021 - 2022 *Teaching Assistant*

BD Medical

2019 - 2021 *Research and Development Intern*

PUBLICATIONS

Primary Author — *Clinician and Patient Evaluation of a Wearable Strain-Gauge based Vertebral Motion Tracking System* — Abstract and Poster Presentation - Accepted to the BMES Conference - October 2021

Co-Author — *SPINE Sense Enhancements for Improved Clinician and Patient Experienced — Abstract and Poster Presentation* — Accepted to SOARS (Summit/ORS Ambassador Regional Symposium) - September 2022

Co-Author — *Wearable nanocomposite sensor system for motion phenotyping chronic low back pain: a BACPAC Technology Research Site* — Paper - Journal: Pain Medicine — Published Feb. 2023

Primary Author — *Wearable Strain Sensor-Based Detection of Lumbar Fatigue Using Machine Learning - Paper* — Journal: IEEE Transactions on Biomedical Engineering — Publication pending.

VOLUNTEER EXPERIENCE

Full time missionary, São Paulo, Brazil

2015 - 2017 *Missionary Training Leader*