



CURRICULUM VITAE
BROOKE E. MCKINNEY

EDUCATION

- 2024 MS COLORADO SCHOOL OF MINES – GOLDEN, COLORADO
College of Engineering
Mechanical Engineering
Specialty – Biomechanics
- 2023 BS COLORADO SCHOOL OF MINES – GOLDEN, COLORADO
College of Engineering
Mechanical Engineering
Minor – Biomechanical Engineering

PROFESSIONAL EXPERIENCE

- 2023 – DATE VECTOR SCIENTIFIC, INC.
Biomechanical Engineer / Research and Testing
Biomechanics
Injury biomechanics investigation, analyses, and reconstruction of motor vehicle accidents including low-speed and high-speed crashes involving frontal, rear-end, lateral, sideswipe, and rollover collisions; injury biomechanics analyses involving human dynamics and injuries in sport/recreation, and industrial/occupational accidents; research and application of large-scale data processing and statistical analyses of a national vehicle crash database for occupant injury outcomes and trends.
- 2023 VECTOR SCIENTIFIC, INC.
Biomechanical Engineer Intern
Spearheaded research project conducting large-scale data processing and statistical analyses of a national vehicle crash database for occupant injuries in side impacts and to determine effectiveness of airbag deployment in single-event side impacts.
- 2021 TALLGRASS ENERGY PARTNERS
Asset Integrity Engineer Intern
Collected and analyzed field data to find pipeline anomalies caused by internal and/or external corrosion.

LICENSES AND CERTIFICATIONS

- 2024 / May FINITE ELEMENT ANALYSIS (FEA), GRADUATE CERTIFICATE
Colorado School of Mines
- 2024 / Mar FUNDAMENTALS OF ENGINEERING (FE), MECHANICAL LICENSE
National Council of Examiners for Engineering and Surveying

RESEARCH AND TESTING

- 2023 – 2024 VECTOR SCIENTIFIC, INC.
Airbag Effectiveness in Side Impacts
- 2022 – 2023 COLORADO SCHOOL OF MINES HUMAN CENTERED DESIGN STUDIO
Senior Design Capstone Project – Electrical Stimulation Device
1st Place Overall Top Honors Award out of 74 teams.

CONFERENCES, SEMINARS, AND COURSES

- 2025 / June University of Virginia Center for Applied Biomechanics and MOBIO Lab at Universidad Pontificia Comillas – Comillas University, Madrid, Spain
9th International Advanced Course on Injury Biomechanics
- 2024 / Oct 68th Stapp Car Crash Conference – The Ohio State University, Columbus, OH
- 2024 / Oct National Highway Traffic Safety Administration – NHTSA Human Injury Research Division
52nd NHTSA Workshop on Human Subjects for Biomechanical Research
- 2024 / Sept Society of Automotive Engineers
Injuries, Anatomy, Biomechanics & Federal Regulation
- 2024 / July National Association of Professional Accident Reconstructionists (NAPARS)
Counterfeit Airbags – Crash Investigation and Reconstruction of Counterfeit Airbags and Non-Genuine Component Parts

PROFESSIONAL MEMBERSHIPS

- Society of Automotive Engineers (SAE)
- Association for the Advancement of Automotive Medicine (AAAM)