JARED RIFKIN

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University of Virginia, Center for Applied Biomechanics
4040 Lewis and Clark Drive, Charlottesville, VA, 22911

EDUCATION

2020 – present
Ph.D., Department of Mechanical and Aerospace Engineering (GPA: 4.0)
University of Virginia, Center for Applied Biomechanics
Expected Graduation Date: 2024

2016 – 2019
B.S.E, M.S.E, Department of Bioengineering (GPA: 3.89, 3.91)
University of Pennsylvania

HONORS & AWARDS

2022 NNS Trainee Travel Award

2022 University of Virginia: Engineering-in-Medicine Seed Grant

2021 University of Virginia: UVA Engineering is Beautiful Dean's Research Art Contest, 1st Place, Graduate Student Category

2021 National Science Foundation: Graduate Research Fellowship Program Honorable Mention

2019 University of Pennsylvania: Graduated *summa cum laude*

2016 – 2019 University of Pennsylvania: Dean's List

RESEARCH ACTIVITIES

2022 – present *Differential brain network response to simulated lesion*
Lesioning brain networks according to strain distributions from finite element simulated impacts.

2021 – present *Endovascular surgery simulator*
Developing computational finite element model for rapid simulation of catheters in neuro-endovascular surgery.

2021 – present *Pediatric skull surgical screw characterization*
Determining the strength of surgical screw integration in pediatric skull samples.

2019 – 2022 *Brain network architecture typing*
Identifying distinct patterns of structural connectivity networks and simulated neural dynamics within a population of brains.

2020 – 2021 *Risk function development of skin response to blunt impact*
Characterizing skins response to blunt impact over a parametric sweep of impactor shape, size, and speed.

WORK EXPERIENCE

2020 – present
University of Virginia, Center for Applied Biomechanics
Position: Graduate Research Assistant
Mentor: Matthew B. Panzer, Ph.D.

2019 – 2020
University of Pennsylvania, Meaney Lab
Position: Research Specialist

2017 – 2019
University of Pennsylvania, Department of Bioengineering
Position: Undergraduate Research Specialist
Mentor: David F. Meaney, Ph.D.

TEACHING & MENTORSHIP

2021 – present
University of Virginia, Mechanical and Aerospace Engineering Department
Position: Graduate Teaching Assistant
Class: Finite Element Analysis, Professor: Matthew Panzer, Ph.D.
Class: Constitutive Modeling of Biosystems, Professor: Jason Kerrigan, PhD.

2021
University of Virginia, School of Engineering
Position: Engineering Graduate School Mentor

SERVICE & LEADERSHIP

2022 – present
University of Virginia, Mechanical and Aerospace Engineering Department
Position: Graduate Student Board Social Chair

PUBLICATIONS & PRESENTATIONS

Journal Publications

Taotao Wu, **Jared A. Rifkin**, Adam C. Rayfield, Erin D. Anderson, Matthew B. Panzer, David F. Meaney. **Concussion Prone Scenarios: A Multi-Dimensional Exploration in Impact Directions, Brain Morphology, and Network Architectures Using Computational Models**. (2022). ABME

Jared A. Rifkin, Taotao Wu, Adam Rayfield, Erin D. Anderson, Matthew B. Panzer, David F. Meaney**. Brain architecture-based vulnerability to traumatic injury**. (2022). Frontiers in Bioengineering

Taotao Wu, **Jared A. Rifkin**, Adam Rayfield, Matthew B. Panzer, David F. Meaney**. An Interdisciplinary Computational Model for Predicting Traumatic Brain Injury: Linking Biomechanics and Functional Neural Networks**. (2022). NeuroImage

Daniel F. Shedd, Parker R. Berthelson, **Jared A. Rifkin**, Justin McMahon, J. Sebastian Giudice, Jason L. Forman, Matthew B. Panzer. **The Risk of Skin Injury Caused by High-Rate Blunt Impacts to the Human Thorax.** (2022). Hum Factors Mech Eng Def Saf

Parker R. Berthelson, Daniel F. Shedd, **Jared A. Rifkin**, Justin McMahon, J. Sebastian Giudice, Jason L. Forman, Matthew B. Panzer. **Evaluation of an In Situ Ovine Model as a Surrogate for Human Skin Injury Caused by High-Rate Blunt Impact.** (2022). Hum Factors Mech Eng Def Saf

David Gabrieli, Nick Vigilante, Rich Scheinfield, **Jared A. Rifkin**, Samantha Schumm, Taotao Wu, Lee F. Gabler, Matthew B. Panzer, David F. Meaney. **A multibody model for predicting spatial distribution of human brain deformation following impact loading**. (2020). JBME

Conference Publications

Jared A. Rifkin, Taotao Wu, Adam Rayfield, David F. Meaney, Matthew B. Panzer. **Brain architecture types experience differential response to structural lesions from simulated impacts.** (2022). National Neurotrauma Society Symposium