ROBERT W. SCHUSTER, PhD
APPLIED BIOMECHANICS RESEARCHER, SPORT SCIENTIST

linkedin.com/in/robertwschuster | robertwschuster.github.io | Brisbane, AUS

PROFESSIONAL OVERVIEW

I am a naturally curious individual with a strong passion for investigating challenging questions and solving complex problems in the realm of biomechanics. My extensive experience encompasses the collection, processing, analysis and effective communication of biomechanical research data. I have consistently applied these skills across diverse fields related to human health and performance.

RELEVANT WORK EXPERIENCE

Griffith University | Gold Coast, AUS   10/2023 - present
Postdoctoral Research Fellow

Lead interdisciplinary and industry-partnered research projects while supporting the writing of grant applications.
- Conducting research to provide leading sports apparel brand with recommendations for developing innovative athletic footwear.
- Collaborating with computer science researchers to explore the application of different machine learning and deep learning methods in the field of biomechanics.

The University of Queensland | Brisbane, AUS   07/2019 - 05/2023
Graduate Teaching Assistant & Senior Research Assistant

Supported a research project focused on predicting ground reaction forces from markerless 3D motion tracking during various activities. Developed and delivered course content for undergraduate students.
- Successfully leveraged skills in musculoskeletal modelling and supervised learning (linear mixed modelling) to deliver accurate results within tight deadlines.
- Applied R programming skills to create clear and insightful figures for interpretation, presentation and publication.

Australian Catholic University | Brisbane, AUS   05/2022 - 12/2022
Research Assistant

Provided programming expertise to expedite research projects related to human health and performance.
- Developed R Shiny apps and custom MATLAB routines for efficient data reduction, visualization and interpretation.

VALD | Brisbane, AUS   05/2022 - 07/2022
Industry Placement

Independently conducted proof-of-concept research for a novel application of a newly launched strength measurement device.
- Proactively gathered subjective client feedback and collected and analyzed research data to provide concise, practical recommendations regarding the integration of load cell and inertial measurement unit data.
- Seamlessly transitioned to programming in Python, leveraging prior programming skills.

Technical University of Munich | Munich, GER   05/2016 - 08/2018
Student Assistant & Scientific Staff Member

Conducted collaborative research with partners from leading national sports organizations, automotive, exercise equipment and clothing manufacturers. Developed and delivered content for undergraduate students.
- Gathered robust research data from high performance athletes, assembly line workers and the general population.
- Employed interpersonal skills to communicate research concepts clearly and concisely to diverse audiences.

EDUCATION

The University of Queensland | Brisbane, AUS   10/2018 - 03/2023
PhD in Biomechanics
- Collaborated with mechanical and electrical engineers to develop a custom force-instrumented measurement device.
- Proficiently applied unsupervised learning (PCA) and musculoskeletal modelling to study human locomotion.
- Contributed expertise to external research projects, providing actionable insight to shoe manufacturers.
- Nominated for the Dean's Award for outstanding contribution to the discipline.

SKILLS & INTERESTS

Methodologies: 3D motion capture, force and plantar pressure measurements, EMG, IMUs, cardiopulmonary exercise testing
Computer: R, MATLAB, Python, OpenSim, Visual3D | *Languages:* German (native), English (near native), Spanish (fluent)
Interests: rugby union, strength training, running, cooking, movies, reading (especially popular science)