Robert W. Schuster, PhD

APPLIED BIOMECHANICS RESEARCHER, SPORT SCIENTIST

[linkedin.com/in/robertwschuster](http://www.linkedin.com/in/robertwschuster) | [robertwschuster.github.io](http://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)