

Chris Richter

DATA SCIENCE · BIOMECHANICS

Skills

- Programming:** Python, Matlab, LaTeX, git, OpenSim
Python Modules: NumPy, Pandas, Scipy, scikit-learn, TensorFlow, statsmodels, scrapy, Dash, NLTK, geopandas
Data storage: SQL, XML, JSON, Data Warehouse
Statistics: Hypothesis Testing, Descriptive Analysis
Machine Learning: Neural Networks, KNN, Naive Bayesian, Decision Trees, SVM, Clustering, (Logistic) Regressions
Lecturing: see <https://www.biomechanicsabcs.com/>

Achievements

- Leadership:** Supervision of **30+** B.Sc. & **3** Ph.D. in Sport Science / Biomechanics, Former Secretary of SSC Ethics Committee
Scientific Writing: **50+** peer reviewed publications, reviewer for **15+** scientific journals, **10+** invited key notes & **1** book chapter Chapter 11. Kinematics and Gait Analysis in NSCA's Essentials of Sport Science
Research Awards: **3rd** place New Investigator ISBS Award 2014 & Ph.D. scholarship (est. value: **€ 100k**)
Consultancy: Force Decks, Total Performance & SSC (data analytics / injury risk assessment for NBA teams / contracted studies)
External Evaluator for the Albanian & Kosovo Higher Education Accreditation Agency

Experience

Kaia Health

Munich, Germany

SENIOR APPLIED RESEARCH SCIENTIST (REF: NONE AS OF CONFIDENTIAL APPLICATION)

Mar. 2020 - present

At Kaia, I have developed a framework that defines Kaia's digital biomarker R&D pathway. To ensure the correctness of user insights, I have been heavily involved in data QA and have implemented improvements within our snowplow structure. I have been presenting Kaia at international conferences, I have been educating our marketing & sales team in respect to motion analysis and have helped to push our pose-estimation models into a 3d space.

YFood

Munich, Germany

SENIOR INNOVATION SCIENTIST (REF: HEAD OF INNOVATION, A. KARL [AKARL@YFOOD.EU])

Sep. 2020 - Feb. 2021

To increase sales performance, I gathered and examined customer demographics and insights in to smart food. To improve customer targeting, I identified the gender distribution of our database and crawled online reviews and examined regional sales differences (€/resident) using dash, geopandas and public databases. To examine customer behaviour, I conducted surveys and personal interviews (+50) that I analysed using descriptive statistics and NLP. These insights impacted marketing strategies and our product innovation road map.

Sports Surgery Clinic (SSC)

Dublin, Ireland

HEAD OF DATA ANALYTICS & INNOVATION (REF: DIRECTOR SPORTS MED., DR A. FRANKLYN-MILLER [AFRANKLYNMILLER@ME.COM])

Apr. 2015 - Oct. 2020

To identify movement deficits of patients the SSC offered multiple biomechanical tests (line-manager) and performed various clinical research studies. I developed software tools to ensure a standardised reporting / data storage (SQL) and fast feedback (time savings 90%). To improve and promote our services, I was conducting / contributing / supervising studies using statistical analysis, data mining, classification and machine learning that resulted in an increase of professional athletes (e.g., premier league, Irish Rugby) treated in the SSC. As part of the senior management, I reviewed & implemented systems for the sports medicine department that enabled growth - from treating just a few hundred to 50,000 patients a year.

Insight: Centre for Data Analytics Dublin City University

Dublin, Ireland

POSTDOCTORAL RESEARCHER (REF: PRINCIPAL INVESTIGATOR, PROF K. MORAN [KIERAN.MORAN@DCU.IE])

Jan. 2014 - Mar. 2015

I worked on projects that demonstrated the benefit of inertia sensors in a healthcare / sports environment. As part of an interdisciplinary team, I performed data captures, sensor validations, statistical analysis, classification and data mining. Further, I also supported the biomechanical data processing and analysis for the SSC, who was an industrial partner and founder of this position.

Education

Dublin City University

Dublin

PH.D. IN THE FIELD OF BIOMECHANICS AND DATA SCIENCE / ANALYTICS

Oct. 2010 - Dec. 2013