

MARCO VIERO, PH.D.

Scientist and Engineer

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github.com/marcoviero

SKILLS

Technical

- Programming
 - Python (expert)
 - SQL (advanced)
 - R (advanced)
 - Matlab (expert)
- ML & Statistics
 - Machine Learning (advanced)
 - Deep Learning (proficient)
 - Bayesian inference (expert)
 - Time series analysis (expert)
 - Regression analysis (advanced)
 - Data visualization (advanced)
- Infrastructure
 - Google Cloud (advanced)
 - Docker/K8S (advanced)
 - Time series analysis (expert)
 - Airflow (proficient)
- Development
 - Jupyter (advanced)
 - Dash (advanced)
 - TensorFlow (proficient)

Communication

- 150+ peer-reviewed [publications](#) (h-index = 52)
- 50+ talks to scientific and front office audiences
- Open-source software author (SIMSTACK: 120+ citations)

Leadership

- Founded international workshop series on Line-Intensity Mapping
- Led cross-functional modeling teams and mentored junior scientists

EDUCATION

Ph.D. in Astrophysics

University of Toronto

M.S. in Physics

University of Pennsylvania

B.S. in Mechanical Engineering

Cornell University

EXPERIENCE

Senior Data Scientist

04/2023 - Ongoing

Teamworks Intelligence (formerly Zelus Analytics)

- Built physics-based bat-path models inferred from ball-flight properties.
- Developed change-point models connecting changes in performance to kinematics.
- Deployed models into production, both internally and for client-facing products.

Senior Research Scientist

01/2021 - 03/2023

California Institute of Technology

- Lead the SPHEREx space telescope detector calibration effort.
- Coordinated cross-disciplinary integration of focal-plane array.
- Mentored development of Python software to drive instrumentation and collect data.

R&D Data Scientist

04/2018 - 12/2020

Wahoo Fitness

- Embedded automatic calibration state machine on trainer firmware.
- Implemented FIR, IIR, and Kalman filters to improve ride position data.
- Introduced Bayesian logic to heart-rate monitor estimation firmware.

Kavli Fellow in Astrophysics

08/2014 - 04/2018

Stanford University

- Recognized leader in the nascent field of Line-Intensity Mapping.
- Lead Herschel/South Pole Telescope joint analysis modeling cross-correlations.
- Released **SIMSTACK** stacking code ([Github](#)); is now standard software in the field.

Postdoctoral Scholar

07/2010 - 08/2014

California Institute of Technology

- Lead *Herschel Space Telescope* Large Mode (HeLMS) and Stripe 82 (HerS) Surveys.
- Pioneered multi-disciplinary approach employing statistical techniques (cross-power spectra, covariances) on noise-dominated data.
- Released SIMSTACK stacking code ([Github](#)); is now standard software in the field.

MOST PROUD OF



Designing the Parlee Z1/2/3 carbon fiber road bike frame.



Launching an International Workshop Series on Line-Intensity Mapping.



Being Awarded time by NASA to Lead two Space-Telescope Programs.



Receiving the Kavli Fellowship at Stanford, which came with full autonomy.



Taking the BLAST balloon telescope from initial design to Antarctic launch.



Winning Two World Championships with the Cornell Formula SAE Team.