University of Colorado Boulder
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Teo Price-Broncucia

Education and Research Experience

University of Colorado Boulder *PhD Computer Science,* 2024 (Expected)
Advised by Rebecca Morrison
Clive Baillie Memorial Fellowship Recipient

National Center for Atmospheric Research *Visiting Student Researcher,* May 2023 - Current
Mentored by Allison Baker

University of Colorado Boulder *MS Computer Science,* 2022

Colorado College *BA Physics,* 2014
Advised by Shane Burns
Boettcher Foundation Scholar

Research Interests

I am interested in data informed physics based computer models. This has led me to the topics of reduced models, calibration, and uncertainty quantification with a focus on expensive chaotic models such as those used in climate and weather prediction. I'm curious about the potential to improve the utility of models in educational and industrial domains. I believe we have an obligation to consider the societal and environmental impacts of our work, minimize harm, and contribute to the wellbeing of humanity and the natural world.

Awards

2023 **UQ Student Paper Competition Semi-Finalist** - 17th US National Congress on Computational Mechanics, Albuquerque, NM

2023 **CERRA Student Recognition Award** - 14th International Conference on Applications of Statistics & Probability in Civil Engineering, Dublin, Ireland

2023 **Clive Baillie Memorial Fellowship** - CU Boulder Computer Science Department

2022 **Travel Award** - U.S. Association for Computational Mechanics Thematic Conference on Uncertainty Quantification for Machine Learning Integrated Physics Modeling

2013 **Colorado College Venture Grant, Colorado College Summer Session Grant, Boettcher Foundation Educational Enrichment Grant** - All grants supported independent research project, "Renewable Energy in Spain: A Holistic Inquiry"

2010 **Boettcher Foundation Scholar** - Full cost four year merit scholarship awarded to top high school students in Colorado.

Conference Activity and Publications

Conference Paper: **Price-Broncucia T,** Morrison R. *Ultra-Short-Time Batching and Unscented Kalman Inversion for Calibration of Expensive Chaotic Models* - 17th US National Congress on Computational Mechanics, Albuquerque, NM - **UQ Student Paper Competition Semi-Finalist**, 2023

Conference Paper: **Price-Broncucia T,** Morrison R. *Multi-Time Unscented Kalman Inversion for Calibration of Expensive Chaotic Models* - 14th International Conference on Applications of Statistics & Probability in Civil Engineering, Dublin, Ireland - **CERRA Student Recognition Award Recipient**, 2023

Poster: *Multi-Time Unscented Kalman Inversion for Calibration of Expensive Chaotic Models* - U.S. Association for Computational Mechanics Thematic Conference on Uncertainty Quantification for Machine Learning Integrated Physics Modeling, Washington D.C., 2022

Paper: Scholl VM, McGlinchy J, **Price-Broncucia T**, Balch JK, Joseph MB. *Fusion neural networks for plant classification: learning to combine RGB, hyperspectral, and lidar data.* PeerJ 9:e11790, 2021

Teaching and Service

Graduate Peer Mentor Program — *Mentor* 2023-Current
Mentored first year graduate student.

McNair Scholar Program — *Mentor* 2022-Current
Mentored undergraduate McNair scholars, who are first generation college students working towards pursuing doctoral studies.

CU Access and Inclusion Program — *Mentor* 2021-2022
Mentored first year engineering student from an underrepresented group on managing social, mental, and academic difficulties.

CU Computer Science Department — *Teaching Assistant* 2021
Introduction to Programming. Weekly instruction and office hours for ~75 students.

Teaching and Service cont.

CodeConnects — *Instructor* 2019-2020
Remote instruction for high school student without access to CS in school.

Yampa Valley Science School — *Biosphere Resource Specialist* 2015
Led a team of 6 to teach a comprehensive ecological curriculum to 6th graders in Routt County.

Industry Experience

Boeing, Denver — *Research Intern* 2019
Worked on image recognition, data analysis, and data visualization projects.

E3 Consulting, Denver — *Analyst* 2016-2018
Due diligence of energy projects with a focus on energy production modeling for solar projects. Inspected over 75 new and existing solar projects across the United States. Worked with top developers and financial parties in the industry.