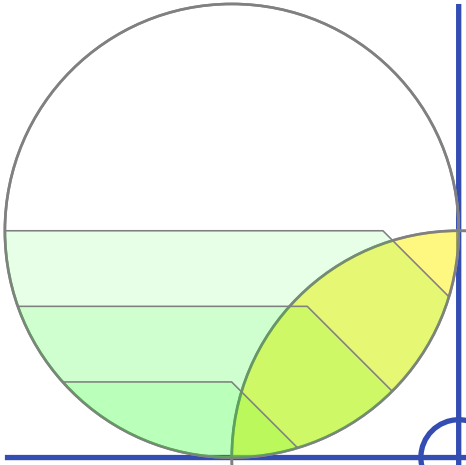

John R. Mahoney

PROFILE

I'm a rad dad who endeavors to make the world a fizzier place. A physicist by training and jazz saxophonist by night, I approach the world with both an analytic mind and a the desire for a deep pocket.

PROGRAMMING

Python: np, sp, mpl, pd
GUI / interactive
git, LaTeX, beamer, tikz
ipython, Jupyter, VS Code
MATLAB
Mac OS, UNIX

INTERPERSONAL

Excellent listener
Flexible and creative
Work well in close-knit teams
Independent worker
Thoughtful mentor
Value clear communication

PROJECTS

Python & Physics course
Burning Invariant Manifolds
CMPy contributor
Simpson's Paradox
timesquare
this resumè

INTERESTS

jazz saxophone and piano
soccer, tennis, and hiking
cooking and eating delicious food!

mohnjahoney@gmail.com
(530) 601-0524
mohnjahoney.github.io

COMMUNICATION SKILLS

Written:	Wrote and co-authored over 25 papers published in high quality journals (PRL, PRX, PRA, PRE, CHAOS, J. Stat Phys.). Edited multiple articles for colleagues. Refereed for several journals. Read about: prediction, reacting fluids, quantum information.
Verbal:	Designed and delivered over 35 talks and posters including: Quantum Info Workshop at Nanyang Technical University, Singapore; Conference on Complex Systems, Amsterdam; CHAOS15 at Henri Poincaré Institute, Paris; Oberwolfach, Germany (awarded "best poster"); International Conference on Flow Dynamics, Sendai, Japan
Graphical:	Value design and aesthetics in communication. I seek to balance precision and depth with clarity and impact. One significant output of my research on reacting flows is the graphical presentation of an augmented flow topology. My research in information theory was often facilitated by Venn diagrams, a technique I helped to incorporate in my research group. Sometimes, as with my study on self-propelled agents, the result is as much art as it is science. Look at: topology of reacting flows, info diagram, Poincaré art.

ANALYTIC SKILLS

Research:	Connected my work on reacting fluids to several existing fields: invariant manifolds, finite-time Lyapunov exponents, advection-reaction-diffusion equation, catastrophe theory, path planning in autonomous vehicles, differential geometry.
Critical Thinking:	Reframed an assumption in the literature to create a fruitful research avenue - *crypticity and cryptic order*.
Data:	Created Python pipeline for data on diabetes patients: clean, process, analyze (multiple pair lagged regression), visualize.

WORK EXPERIENCE

Fall 2020	Math Specialist: UC Davis
Summer 2020	Course Designer and Instructor: UC Davis
Oct 2019	Math Lecturer: Napa Valley College
Spring 2019	Physics Lecturer: UC Davis
Fall 2018	Math Lecturer: CSU Maritime
2017-2018	Consultant: Dept. Biomedical Informatics, Columbia University
Fall 2017	Spring 2018, Math Lecturer: UC Davis
2015-2017	Project Scientist: UC Davis
2010-2015	Postdoctoral Scholar: UC Merced

EDUCATION

Ph.D. in Physics, UC, Davis with James P. Crutchfield
B.S. in Physics and Mathematics, CSU, Chico
attended Williams College for Physics, Mathematics and Music