Max Thrush Hukill

25 Oak Knoll Gardens Dr., Pasadena, CA 91106 · maxhukill@gmail.com · 510-542-1997

https://github.com/mhukill/Max_Hukill.CV

Education

Kaiser Permanente Bernard J. Tyson School of Medicine (KPSOM), Pasadena, CA — July 2023 – present

M.D. expected in 2027

Awards: ACP SoCal Region I 1st Place in Research (2024); Excellence in Student Research and Scholarship Award 2025 (Nomination)

Bowdoin College, Brunswick, ME — 2017 – 2021

A.B. in Mathematics and Biochemistry

Awards: Phi Beta Kappa, *magna cum laude*, *Sunrise* Prize in Cinema Studies, Surdna Research Fellowship, Book Award, Sarah and James Bowdoin Scholar, Faculty Scholar

Honors Thesis: A Bayesian hierarchical mixture model with continuous-time Markov chains to capture bumblebee foraging behavior

School for Field Studies, Puerto Natales, Chile — 2020

Study abroad program. Coursework: Climate Science, Patagonian Ecology, Socio-Political Dimensions of Conservation.

Research Experience (see GitHub)

KPSOM and KP SCAL Quality Improvement collaboration, Pasadena, CA — Aug 2024 – present

Student Researcher; Advisor: Robyn Glezer, DO

- Worked with fellow students at KP Panorama City to develop quality intervetion to improve statin adherence
- Developed analytic pipeline, translated outreach materials into Spanish, and helped administrate project

KPSOM and KP SCAL Nephrology collaboration, Pasadena, CA — Jan 2024 – present

Student Researcher; Advisor: Talha Imam, MD

- Investigating exit-site infection rates for peritoneal dialysis in a vertically integrated healthcare system
- Developed analytical pipeline and statistical framework for the dataset

KPSOM and KP SCAL Hepatology collaboration, Pasadena, CA — Jun 2024 – present

Student Researcher; Advisor: John Sim, MD

- Conducting epidemiological survey of alcoholic liver disease patients within KP system
- Corroborating validity of ICD-10 and ICD-9 in a large vertically integrated healthcare system

KPSOM and KP Interregional Quality Improvement collaboration, Pasadena, CA — Jul 2023 – present

Funded Scholarly Project on Social Needs; Advisors: Quyen Ngo-Metzger, MD, Chileshe Nkonde-Price, MD

- Investigating interplay between social needs and hypertension control in Kaiser Permanente
- Managing interregional collaboration between KP Northern CA, Southern CA, Washington, and Colorado
- Using the HEDIS and SONNET Social Needs survey datasets to model hypertensive control across KP regions

Mathematics Dept. and Ecology Dept. collaboration, Bowdoin College, Brunswick, ME — 2020 – 2023

Student Researcher & Honors Project on Bumblebee Behavior; data from Patty Jones, PhD; Advisor: Jack O'Brien, PhD

- Developed computational Bayesian statistical model for data describing bumblebee behavior
- Engineered a hierarchical regression scheme in R for novel inference of a complex array of biologically pertinent parameters
- Implemented both discrete- and continuous-time Markov chain representations of the state space, using Metropolis-Hastings and Markov chain Monte Carlo techniques for inference
- Conducted thorough simulation studies and proof-of-concept checks throughout
- Compared algorithm's performance to alternate approaches such as generalized-linear mixed models
- In the process of preparing work for publication

Mathematics Dept. and Neuroscience Dept. collaboration, Bowdoin College, Brunswick, ME — 2020 – 2023

Student Researcher on Cricket Behavior; data from Hadley Horch, PhD; Advisor: Jack O'Brien, PhD

- Designed a behavioral assay for cricket response to auditory stimulus
- Engineered a bioinformatic pipeline and developed novel metrics for analysis
- Developed visualization schemes for the data transformed by our pipeline
- Navigated data generated by DeepLabCut, an artificial intelligence engine in neuroethology

- Pipelines and analysis routine successfully described cricket responses, demonstrating the utility of the tools developed

Kaiser Permanente Oakland Hospital, Perioperative Clinic, Oakland, CA 2019

Quality Improvement Research Intern, Advisors: Renuka Yeldandi, MD, Stephen Sarafian, MD

- Led project seeking to improve patient care experience through early educational intervention on postoperative delirium
- Conducted extensive interviews with patients and health care providers
- Administered Mini-Cog exams and delirium education to patients
- Developed workflow for the clinic
- Over 80% of patients followed throughout the study reported that the program actively added value to their care experience
- Presented findings and workflow framework to hospitalist physicians and the perioperative clinic staff
- Recommendations currently being implemented region-wide

Chemistry Dept., Bowdoin College, Brunswick, ME 2019

Student Researcher, Advisor: Benjamin Gorske, PhD

- Using solution-phase organic chemistry, designed, synthesized, and analyzed biomimetic thiopeptoids targeting the WW binding domain relevant to cancer and Alzheimer's pathways
- Applied theory of $n \rightarrow \pi^*$ interactions to design peptoid foldamers mimicking naturally occurring peptides
- Conducted sequential solution-phase steps to create and purify target molecules

Kaiser Permanente Oakland Hospital, Hospital-Based Medicine, Oakland, CA 2018

Research Intern, Advisors: Yu-Te Lee, MD, Loveleena Virk, MD

- Collaborated with hospitalists and LEAN Methodology project managers to increase hospital discharge efficiency
- Interviewed patients and hospital staff to develop "The Discharge Card," a patient-education and hospital efficiency tool in various cycles
- Balanced concerns of patients with those of the hospital staff to ensure the product added value to both the patient care experience and hospital administration
- Over 75% of patients in pilot program felt the card actively improved various aspects of their hospital stay
- Presented findings and recommendations to the Dept. of Hospital Based Medicine at KP Oakland

Teaching Experience

Village Family Services, Chatsworth, CA 2023 – 2025

Community Health Educator and Volunteer Coordinator

- Designed and implemented health curriculum for youth experiencing homelessness in the San Fernando Valley
- Created volunteer pipeline to maintain continuity

The College Preparatory School, Oakland, CA 2022 – 2023

Mathematics Faculty and Admissions Associate

- Taught high school math (algebra, calculus, probability theory, complex analysis) focusing on student-led discovery method
- Conducted admissions outreach, focusing on Spanish-speaking communities in the Bay Area
- Organized, graded, and coordinated the placement of incoming students

La Clínica de la Raza, Casa CHE, Oakland, CA 2021

Community Health Educator II

- Canvased communities in Oakland's Fruitvale district to improve COVID-19 vaccination confidence and uptake
- Strategized and executed bilingual community outreach projects virtually, over the phone, and in person
- Helped build lasting relationships between La Clínica and the community it serves, emphasizing restorative health justice

Community United Elementary School, Oakland, CA 2020 – 2021

Bilingual Zoom Tutor

- Mentored and tutored Spanish-speaking fourth graders in their online coursework
- Tailored lesson plans and sessions to their needs, focusing on communication skills
- Encouraged a positive learning environment that reconciled students' needs with teachers' objectives

Bowdoin College, Brunswick, ME 2019

Calculus Teacher Assistant, Instructor: Naomi Tanabe, PhD

- Orchestrated weekly review sessions for students of integral calculus
- Prepared and presented material to and for students
- Cultivated an atmosphere of collaboration in the classroom

- Interfaced with students and professor to create optimal learning plans

REAL School, Brunswick, ME 2018 – 2019

Community Mentor and Tutor

- Assisted middle/high school for nontraditional students with special needs, mental health barriers, histories of trauma
- Fostered passion-driven educational curricula, emphasizing student-based inquiry into natural sciences and math
- Mentored outside of academics, focusing on restorative learning, emotional vulnerability, and mutual respect

Cook! Culinary Programs, Emeryville, CA 2013 – 2017

Head Intern and Cooking Instructor

- Cooked and cleaned in a commercial catering kitchen, working alongside award-winning chefs and bakers
- Instructed students on culinary techniques and kitchen management, working in both individual and group settings
- Trained and supervised other interns, responsible for overall order and flow of the kitchen

Leadership and Co-Curriculars

KPSOM Athletic Social Club, Pasadena, CA 2023 – 2027

Club co-leader and co-founder

- Organized routine tennis and pickleball tournaments, socials, and skills workshops
- Cultivated collaborative community of athletic opportunity for medical students of all levels

Bowdoin Bridge Club, Brunswick, ME 2018 – 2021

Club co-leader and co-founder

- Organized weekly bridge card games, coordinating between schedules of students and local coach
- Taught foundational bridge principles to newcomers, and designed lessons with coach and co-leader
- Advertised club to students and managed administrative obligations

Weekly Movie Nights, Brunswick, ME 2018 – 2021

Organizer

- Balanced interests of 10 regular attendees, selecting films of interest and import
- Held post-viewing discussions

Publications

- O. Ellers PhD, C. Gordon PhD, M. Hukill, A. Kukaj, A. Cannell PhD, A. Nel PhD. *Induced Power Scaling Alone Cannot Explain Griffenfly Gigantism*, Integrative and Comparative Biology, Volume 64, Issue 2, August 2024, Pages 598–610, https://doi.org/10.1093/icb/icae046

Posters and Presentations

- M. Hukill, A. Yeung, T. Imam MD, *Trends in Peritoneal Dialysis Exit-Site Infection Rates in an Integrated Health Care Model in the United States.* Poster presented at:
    - American College of Physicians, National Symptosium (Apr, 2025), New Orleans, LA
    - Annual Dialysis Conference, National Symptosium (Mar, 2025), Las Vegas, NV
    - American College of Physicians, Southern California Region I (Oct, 2024), Orange, CA
- M.Hukill, O. Ellers PhD. *Induced Power Scaling Alone Cannot Explain Paleozoic Griffenfly Gigantism.* Poster presented at: Geological Society of America, Paleontological Sessions (2024), Irvine, CA.
- M. Hukill, A. Argame, A. Bhatt MD, G. Vatakencherry MD, *Offloading Device Management for Diabetic Foot Ulcers.* Presented educational exhibit at Society of Interventional Radiology (2024), Salt Lake City, UT.
- M. Hukill, J. O'Brien PhD. *A Bayesian hierarchical mixture model with continuous-time Markov chains to capture bumblebee foraging behavior*. Mathematical Honors Defense Talk (2021), Brunswick, ME.
- M.Hukill, R. Yelandi MD, J. Thrush MD, S. Sarafian MD. *The Delirium Screening and Education Program improves patient care experience in the perioperative medicine clinic.* Poster presented at: KP East Bay Academy of Medical Educators Research & Scholarship Symposium (2019), Oakland, CA.
- M.Hukill, M.Hutheesing, Y. Lee MD, C. Vijay MD, L. Virk MD. *Impact of a communication tool on patient care experience of hospital discharge: a thematic analysis of patient care education and agency in the discharge process.* Poster presented at: KP East Bay Academy of Medical Educators Research & Scholarship Symposium (2018), Oakland, CA.

Skills and Hobbies

Language skills: Spanish (professional working capacity, Clinician Clinical Linguistic Assessment certified), Portuguese (intermediate, mostly European), English writing coach (native tongue, rhetoric & grammar professional experience)
Computer skills: R statistical software, ggplot2 library, LaTeX, GitHub, Final Cut Pro, Adobe Premiere Pro, Anki flashcard markdown language (professional level); Microsoft Office, Avid Pro Tools, Stan (proficient); Mathematica, MATLAB, Python, Javascript, C++ (exposure)
Hobbies: tennis, classical piano, cooking/baking, cinema, videogames, board/card games, hiking, science-based resistance training, open-water swimming