

# MAX THRUSH HUKILL

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GITHUB: [HTTPS://GITHUB.COM/MHUKILL/MAX\\_HUKILL.CV](https://github.com/MHUKILL/MAX_HUKILL.CV)

## EDUCATION

<b>Bowdoin College</b> , Brunswick, ME	Expected May 2021
<i>Bachelor of Arts, Majors:</i> Mathematics, Biochemistry	<b>GPA:</b> 3.91/4.00
<i>Relevant coursework:</i> Advanced Probability and Statistics; Real Analysis; Chemical Thermodynamics and Kinetics; Biomimetic and Supramolecular Chemistry; Biochemistry; Health, Culture, & Society; Advanced Spanish	
<i>Awards:</i> Sarah and James Scholar, Faculty Scholar, Surdna Research Fellowship	
<i>Honors Project:</i> Computational Bayesian inference in bumblebee ethology	
<b>School for Field Studies</b> , Puerto Natales, Chile	Jan – Mar 2020
<i>Study abroad program. Coursework:</i> Climate Science, Patagonian Ecology, Socio-political dimensions of conservation.	

## RESEARCH EXPERIENCE (SEE GITHUB)

<b>Mathematics Dept. and Ecology Dept. collaboration, Bowdoin College</b> , Brunswick, ME	Mar 2020 – present
<i>Student Researcher &amp; Honors Project on Bumblebee Behavior; data from Patty Jones, PhD; Advisor: Jack O'Brien, PhD</i>	
<ul style="list-style-type: none"><li>• Developed computational Bayesian statistical model for data describing bumblebee behavior</li><li>• Engineered a hierarchical regression scheme in R for novel inference of a complex array of biologically pertinent parameters</li><li>• Implemented both discrete- and continuous-time Markov chain representations of the state space, using Metropolis-Hastings and Markov chain Monte Carlo techniques for inference</li><li>• Conducted thorough simulation studies and proof-of-concept checks throughout</li><li>• Compared algorithm's performance to alternate approaches such as generalized-linear mixed models</li><li>• In the process of inferring experimentally specific parameters for publication</li></ul>	
<b>Mathematics Dept. and Neuroscience Dept. collaboration, Bowdoin College</b> , Brunswick, ME	Mar 2020 – present
<i>Student Researcher on Cricket Behavior; data from Hadley Horsch, PhD; Advisor: Jack O'Brien, PhD</i>	
<ul style="list-style-type: none"><li>• Designed a behavioral assay for cricket response to auditory stimulus</li><li>• Engineered a bioinformatic pipeline and developed novel metrics for analysis</li><li>• Developed visualization schemes for the data transformed by our pipeline</li><li>• Navigated data generated by DeepLabCut, an artificial intelligence engine in neuroethology</li><li>• Pipelines and analysis routine successfully described cricket responses, demonstrating the utility of the tools developed</li><li>• Collaborated with an interdisciplinary team to prepare our methodology for publication</li></ul>	
<b>Kaiser Permanente Oakland Hospital, Perioperative Clinic</b> , Oakland, CA	Summer 2019
<i>Quality Improvement Research Intern, Advisors: Renuka Yeldandi, MD, Stephen Sarafian, MD</i>	
<ul style="list-style-type: none"><li>• Led project seeking to improve patient care experience through early educational intervention on post-operation delirium</li><li>• Conducted extensive interviews with patients and health care providers</li><li>• Administered Mini-Cog exams and delirium education to patients</li><li>• Developed workflow for the clinic</li><li>• Over 80% of patients followed throughout the study reported that the program actively added value to their care experience</li><li>• Presented findings and workflow framework to hospitalist physicians and the perioperative clinic staff</li><li>• Recommendations currently being implemented region-wide</li></ul>	
<b>Bowdoin College</b> , Brunswick, ME	Aug-Dec 2019
<i>Student Researcher, Advisor: Benjamin Gorske of Chemistry Department</i>	
<ul style="list-style-type: none"><li>• Using solution-phase organic chemistry, designed, synthesized, and analyzed biomimetic thiopeptoids targeting the WW binding domain relevant to cancer and Alzheimer's pathways</li><li>• Applied theory of <math>n \rightarrow \pi^*</math> interactions to design peptoid foldamers mimicking naturally occurring peptides</li><li>• Conducted sequential solution-phase steps to create and purify target molecules</li></ul>	
<b>Kaiser Permanente Oakland Hospital, Hospital-Based Medicine</b> , Oakland, CA	Summer 2018
<i>Student Intern, Advisors: Yu-Te Lee, MD, Loveleena Virk, MD</i>	
<ul style="list-style-type: none"><li>• Collaborated with hospitalists and LEAN Methodology project managers to increase hospital discharge efficiency</li><li>• Interviewed patients and hospital staff to develop "The Discharge Card," a patient-education and hospital efficiency tool in various cycles</li><li>• Balanced concerns of patients with those of the hospital staff to ensure the product added value to both the patient care</li></ul>	

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

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### TEACHING EXPERIENCE

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**Community United Elementary School, Oakland, CA**

Sep 2020 – Present

*Zoom 1-on-1 Tutor*

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

**Bowdoin College, Brunswick, ME**

Sep 2019 – Dec 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**

Sep 2018 – Dec 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
- Mentored outside of academics, focusing on restorative learning, emotional vulnerability, and mutual respect

**Cook! Culinary Programs, Emeryville, CA**

Summers of 2013 – 2017

*Cooking Instructor, Head Intern*

- 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

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### LEADERSHIP AND CO-CURRICULARS

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**Bowdoin Bridge Club, Brunswick, ME**

Sep 2018 – present

*Club co-leader and co-founder*

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

**Weekly Movie Nights, Brunswick, ME**

Mar 2018 – present

*Organizer*

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

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### PRESENTATIONS AND POSTERS

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- 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.

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### SKILLS

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**Language skills:** Spanish (fluent), English writing coach

**Computer skills:** R statistical software, LaTeX (advanced); Microsoft Office (proficient); Stan, Mathematica, MATLAB (exposure)