Vaibhav Sutrave

vbvstrv@gmail.com // 650-644-6172

EDUCATION

M.A. Mathematics June 2022
University of California–Santa Cruz, Santa Cruz, CA

B.S. Physics, Mathematics May 2013
University of Iowa, Iowa City, IA

WORK EXPERIENCE

Directed Reading Program Mentor March - June 2022 (Spring quarter)
U.C. Santa Cruz, Mathematics Department, Santa Cruz, CA
- Paired with an undergraduate student mentee, with whom I developed a suitable reading/research plan that was accessible and relevant to their interests
- Met weekly to gauge progress, provide readings, structure, perspective, feedback, and mentorship
- Assisted the mentee in developing a talk about the readings given at the end of the quarter

Teaching Assistant November 2019 - June 2022
U.C. Santa Cruz, Mathematics Department, Santa Cruz, CA
- Classes (by quarter, F := Fall, W := Winter, Sp := Spring, Su := Summer):

– MATH 19A (Calculus for STEM)	F 20, W 21
– MATH 19B (Calculus for STEM)	Sp 22, F 19, F 21
– MATH 23A (Vector Calculus)	W 22, W 20, Sp 20, Sp 21
– MATH 24 (Ordinary Differential Equations)	Su 21
– CMMU 30 (Numbers and Social Justice)	Su 20

- Held section 1-3 times a week, and weekly office hours
- Graded homework, quizzes, and exams

Lead Teaching Assistant November 2020 - Mar 2022
U.C. Santa Cruz, Mathematics Department, Santa Cruz, CA
- Classes: MATH 19A, 19B, 23A, various quarters
- Managed 3-5 other TA's: organize a weekly schedule of sections and office hours; divide grading, reviews and other duties; communicate between TA's, professors, and students
- Tech support for other TA's and students (Zoom, Canvas, Google suite, online e-book/HW portal (MacMillan Launchpad, Achieve))
- Organized, moderated, and facilitated participation in online discussion forums for students (Piazza, Discord Slack, Zulip, etc.)

Tutor November 2019 - March 2020
Prison Inmate Education Project, Santa Cruz County Jail, Santa Cruz, CA
- Tutored inmates at the Santa Cruz County Jail: implemented diagnostics to determine level of education, collaborated with students to set goals and a plan of study, and taught Pre-Algebra and Algebra

Contractor September - October 2021
Code and Cursor, Oakland, CA
- Collaborated on adapting a version of the "Boids" program (a bird flocking simulator) in the Processing language, for use in an art installation at Chicago O'Hare Airport

- Worked as a team to design, build, and troubleshoot a polished, working program, using math/physics knowledge (vectors, mechanics, etc.) to develop a life-like bird flocking motion
- Wrangled data, balancing aesthetics without losing statistical meaning, and to output intelligible information (positions, sizes, units) for use in assembling the physical exhibit

Recreation Leader I   June - August 2019
Oakland Parks, Recreation & Youth Development, Dimond Park, Oakland, CA
- With other Rec Leaders and Aides, lead groups of 15-20 kids (ages 5-10) through summer camp activities such as: outdoor and indoor games, hikes, educational activities, arts and crafts, visiting guests, field trips, etc.
- Set up, served, and cleaned up breakfast, lunch, supervised free-play, and facilitated use of park equipment and facilities

ASES (After-school Education & Safety) Tutor   August - December 2018
Oakland Charter Academy, Oakland, CA
- Led After School tutoring classes and Study Hall daily
- Organized and taught an enrichment Chess & Puzzles class
- Substitute ASES Supervisor (administrate ASES program: transition students/teachers from end-of-school to snack-time to ASES program, monitor campus to make sure all after-school programs ran smoothly)

Paraprofessional Tutor   May 2016 - August 2018
Oakland Charter Academy, Oakland, CA
- Tutored small groups, both in-class and out of class, during the school day
- Collected student data to inform targeted academic support and intervention
- Substituted for teachers of all grade levels (6th - 8th grade) and subjects
- Led after-school tutoring and enrichment classes daily
- Helped set up and organize community events such as Posada, Harvest Festival, Winter/Spring Formals, and 8th grade graduation

Engineering Tech   September 2014 - May 2016
Contra Costa County Public Works Dept, Martinez, CA
- Used GIS (mapping software) to screen industrial sites for pollutants
- Created and maintained spreadsheets for street sweeping maps, schedules, and collected trash level data
- Communicated with public and other departments by email and phone regarding municipal operations and illegal dumping complaints
- Set up and conducted public outreach at community and school events for education of clean water and watershed programs

TALKS, ORGANIZING

"What (the Heck) is a Higher Category?"   May 2, 2022
UC Santa Cruz, Mathematics Department Graduate Colloquium

"What (the Heck) is a Spectrum?"   February 14, 2022
UC Santa Cruz, Mathematics Department Graduate Colloquium

Community Category Theory Seminar   Winter - Spring 2022
UC Santa Cruz
- Co-organized (with 2 other grad students) this unofficial learning seminar for graduate and undergraduate students.
- In Winter 2022, gave lectures and supervised weekly problem sessions.
- In Spring 2022, a weekly problem session.

Stable Homotopy Theory Reading Group   Winter - Spring 2022
UC Santa Cruz
- Co-organized a reading group following Barnes & Roitzheim – *Introduction to Stable Homotopy Theory*. Gave talks periodically.

∞-Category Reading Group, Talk 1   October 16, 2021
(online)

CONFERENCES, SEMINARS, SCHOOLS, WORKSHOPS...

PCMI Graduate Summer School   July 12-23, 2021
(online) IAS Park City Mathematics Institute
- Week 1 : "An Introduction to Motivic Homotopy and its Applications"
- Week 2 : "Illustrating Mathematics"

¡Viva Talbot! 2021   June 1-6, 2021
(online) MIT

Cornell Topology Festival   May 20-21, 2021
(online) Cornell University

Graduate Student Topology & Geometry Conference   April 9-11, 2021
(online) Indiana University, Bloomington

Dualities in Topology and Algebra   February 1-13, 2021
(online) International Centre for Theoretical Sciences