

Gregory Raskind

Bioinformatics Graduate Student at Harvard University

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Education

Harvard University 2020 - Present

PhD in Bioinformatics and Integrative Genomics

University of Michigan 2015 - 2019

Bachelors of Science in Biochemistry and Mathematical Biology

Minor in Computer Science

GPA: 3.939/4.000

Relevant Coursework:

Bioinformatics Concepts and Algorithms, Differential Equations, Real Analysis, Linear Algebra, Multi-Variable Calculus, Probability, Combinatorics, Topology, Mathematical Modelling in Biology, Data Structures and Algorithms, Web Systems

Organic Chemistry I and II, Advanced Biochemistry I and II, Biophysical Chemistry, Brain Development, Mechanics, Electromagnetism, Introductory Statistical Methods

Publications

Qiao et al. "Targeting Transcriptional Regulation of SARS-CoV-2 Entry Factors ACE2 and TMPRSS2", PNAS 2020

Zhang et al. "Single Cell Analyses of Renal Cell Cancers Reveal Insights into Tumor Microenvironment, Cell of Origin, and Therapy Response" (fourth author, under review)

Research Experience

Chinnaiyan Lab

Michigan Center for Translational Pathology (June 2018-Present)

- Performed bioinformatic analyses on a variety of big data sets, including bulk RNA sequencing data (e.g. GSEA) and whole genome sequencing data.
- Maintained, extended, and automated a pipeline for analyzing single cell RNA sequencing (scRNA-seq) data.
- Developed an interactive web application for annotating scRNA-seq data and performing differential expression analysis.
- Learned how to use, create, and interpret many common figures used in the analysis of sequencing data.
- Gained experience with docker, remote work, and cloud computing.
- Currently manage initial processing of scRNA-seq data and work with the single cell and bioinformatics groups on projects in Prostate and Kidney Cancer.

Big Data Summer Institute (BDSI)

University of Michigan (June 2017 - August 2017)

- Assisted in the development of a genome assembly program.
- Attended a lecture series on various advanced topics in statistics, bio-statistics, computer science, and mathematics.
- Acquired programming techniques in C++, genome assembly, and different sequencing technologies.
- Built a DeBruijn graph of the human reference genome and a variant graph using FASTQ data for chromosome 22.
- Continued project after the conclusion of the institute, working on the program interface and error pruning of the variant graph for low coverage k-mers.

Computer Skills

- Proficiency in R along with working knowledge of a multitude of Bioconductor packages
- Web development (see <https://grasskind.github.io/anitim-photography/> for an example).
- Experience with Linux, Python, JSON, JavaScript, HTML, Css, Bash scripting, Git, LaTeX, C++ and R markdown

Honors and Awards

Phi Beta Kappa National Honor Society 2019 - Present

For "exceptional academic achievement in the arts and sciences"

Outstanding Achievement in Mathematics Award 2019

For "excellent and consistent work in mathematics courses and contributions to the study of Mathematics at Michigan"

Michigan Competitive Scholarship 2018

McCarthy Family Scholarship 2018

Sophomore Honors Award 2017

For "outstanding achievement and engagement in the first two years" of undergraduate education.

University Honors 2015 - 2017

Ginsberg Math Scholarship	2017
Mary Margaret Soderman Memorial Scholarship	2017
James B. Angell Scholar	2017/2018
William J. Branstrom Freshman Prize	2016

Jobs

Camp Counselor June 2019 - August 2019

Michigan Math and Science Scholars

- Planned and led activities with campers.
- Was responsible for 10-18 kids in three separate sessions.

Tutor June 2018 - Present

Varsity Tutors

- Worked one-on-one with students in various subjects such as Algebra 2, Calculus 1, Statistics, and Programming.

Grader for Probability Course (Math/Stats 425) July 2018 - August 2018

University of Michigan Math Department

- Determined problems to grade for correctness, assigned points, and input the grades for homework assignments.

Grader for Introductory Statistics Course (Stats 250) Jan 2018 - April 2018

University of Michigan Statistics Department

- Graded online homework for an Introductory Statistical Methods class with approximately 1,000 student enrolled.
- Proctored and graded exams.

Math tutor Sept 2016 - April 2018

University of Michigan Math Lab

- Tutored students in subjects ranging from Functions and Graphs to Differential Equations and Probability.

Activities and Volunteer Work

Laboratory Assistant June 2018 - August 2019

Chinnaiyan Lab

- Worked full time as a volunteer at the Chinnaiyan Lab for two months before transitioning to a paid position.

Volunteer Tutor January 2018 - April 2018

Wolverine Tutors

- Volunteered at Pathways to Success Academic Campus to teach students from disadvantaged backgrounds high school chemistry.

Mushing Sept 2013 - Dec 2015

Otter River Sled Dog Training Center and Wilderness Adventures

- Fed, trained, and took care of dogs in a kennel that competed in sled-dog races.
- Finished 9th in the Copper Dog 40.

Languages

- Russian - Native language, fluent
- English - Fluent
- Spanish - Some elementary conversation