Gregory Raskind

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Bioinformatics Graduate Student at Harvard University

Education

PhD in Bioinformatics and Integrative Genomics
2020 - Present

Harvard University

GPA: 4.0

Relevant Coursework:

Hallmarks of Cancer, Computational and Functional Genomics, Genetics, Statistical Inference, Concepts in Genome Analysis, Machine Learning, Qualitative and Quantitative Analysis of the Biological Literature, Conduct of Science

Bachelor of Science in Biochemistry and Mathematical Biology
2015 - 2019

University of Michigan

Minor in Computer Science

GPA: 3.94

Relevant Coursework:

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

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

Research Experience

Beroukhim Lab

Harvard Medical School (January 2022 - Present)

- Develop statistical methods for delineating patterns of structural variation in cancer.
- Conduct various computational analyses of genomic datasets, including structural variant/SNV calling in whole genome sequencing (WGS) datasets.

Data Science Intern

Genentech (June 2023 - August 2023)

- Developed and analyzed data from bioinformatic pipelines to compare different tumor immunogenicity metrics.

Farhat Lab (Rotation)

Harvard Medical School (May 2021 - August 2021)

- Investigated quantitative resistance prediction in tuberculosis by convolutional neural networks using WGS data.

Beroukhim Lab (Rotation)

Dana-Farber Cancer Institute (February 2021 - April 2021)

- Built a Bayesian classifier for detecting hypermutated glioma signature in clinical sequencing data.

Chinnaiyan Lab

Michigan Center for Translational Pathology (June 2018 - August 2020)

- 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.
- Managed initial processing of scRNA-seq data and worked 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)

- Helped develop a genome assembly program.
- Built a DeBrujin graph of the human reference genome and a variant graph using human FASTQ data.

Teaching Experience

Teaching Fellow (BMI 710)
March 2023 - May 2023

Harvard Medical School

- Held office hours, helped prepare lecture materials, wrote homework questions, and graded homework/project assignments

Teaching Fellow (Stat 110)
September 2023 - December 2023

Harvard University

Lead a section, hold office hours, and grade assignments for an undergraduate probability class

Head Teaching Fellow (LS1b)
January 2023 - May 2023

Harvard University

Performed administrative duties and wrote exam/problem set questions for an undergraduate genetics class

Tutor (Genetics 201) September 2022 - December 2022

Harvard University

- Tutored PhD students studying genetics

Teaching Fellow (Genetics 201) September 2021 - December 2021

Harvard University

- Planned and lead discussion sections for a graduate level genetics course.
- Wrote homework problems, graded assignments, and held office hours.

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 grades for homework assignments.

Grader for Introductory Statistics Course (Stats 250) January 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.

Volunteer Tutor January 2018 - April 2018

Wolverine Tutors

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

Math tutor September 2016 - April 2018

University of Michigan Math Lab

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

Honors and Awards

NIH Ruth L. Kirschstein Predoctoral Fellow (F31) 2024

Impact score: 16 (top 2% of applications)

Harvard University Certificate of Distinction in Teaching 2021

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"

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", PNAS 2021

Computer Skills

- Proficiency in R along with working knowledge of a multitude of Bioconductor packages.
- Coursework and research experience with Python and C++.
- Web development (see https://github.com/grasskind/shiny-budget for an example with R Shiny).
- Extensive experience with Linux, Bash, Git, and Docker/remote development (including cloud computing).

Activities and Volunteer Work

Inpatient Volunteer November 2021 - Present

Massachusetts Society for the Prevention of Cruelty to Animals-Angell Animal Medical Center (MSPCA-Angell)

- Wash and fold laundry, restock linens in wards, clean, and perform various other inpatient tasks.

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.

Laboratory Assistant June 2018 - August 2018

Chinnaiyan Lab

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

Musher September 2013 - December 2015

Otter River Sled Dog Training Center and Wilderness Adventures

- 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