Thomas A. Sasani

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GitHub: *@tomsasani*

Education

2019 **Ph.D, Human Genetics**, *University of Utah*, Salt Lake City, UT

2015 **B.A, Biochemistry**, *Lawrence University*, Appleton, WI, *summa cum laude*

Experience

10/22-pres. **Staff Research Scientist**, *Quinlan Lab*, Univ. of Utah, Dept. of Human Genetics
  ○ Developing new statistical methods to analyze high-dimensional DNA sequencing data

5/21-10/22 **Senior Data Scientist**, *Recursion Pharmaceuticals*
  ○ Developed new computational methods to analyze data from massive cellular imaging experiments

3/20-5/21 **Postdoctoral Fellow**, *Harris Lab*, Univ. of Washington, Dept. of Genome Sciences
  ○ Discovered alleles that increase the germline mutation rate using whole-genome sequencing data

4/16-3/20 **Graduate Research Assistant**, *Quinlan Lab*, Univ. of Utah, Dept. of Human Genetics
  ○ Analyzed whole-genome sequencing data from large multi-generational families to identify post-zygotic mosaicism and variability in human germline mutation rates
  ○ Used the Oxford Nanopore Technologies platform to sequence DNA virus genomes under strong selective pressure during experimental evolution

Skills

Programming **Python (proficient), R (familiar), SQL (familiar)**

Computing **Unix, git, SLURM**

Data analysis **numpy, scipy, sklearn, pandas, jupyter, unit testing frameworks (pytest)**

ML **pytorch**

Visualization **matplotlib, ggplot2, plotly + Dash**

Selected Academic Publications (full list at Google Scholar)

2024 **Sasani TA**, Quinlan AR, Harris KE. Epistasis between mutator alleles contributes to germline mutation spectrum variability in laboratory mice. *eLife*. **Code.**

2022 **Sasani TA**, Ashbrook DG, Beichman AC, Lu L, Palmer AA, Williams RW, Pritchard JK, Harris K. A natural mutator allele shapes mutation spectrum variation in mice. *Nature*. **Code.**

Funding and Awards

2020 - 2021 **NIH T32 Postdoctoral Genome Sciences Training Grant**

2017 - 2019 **NIH T32 Predoctoral Genetics Training Grant**

2018 **Lassonde Student Innovator**, *University of Utah*

2016 & 2017 **Epstein Award Semifinalist**, *American Society of Human Genetics*