

# Thomas A. Sasani

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🌐 <http://tomsasani.github.io>  
GitHub: [@tomsasani](#)

## Education

- 2019 **Ph.D, Human Genetics**, *University of Utah*, Salt Lake City, UT  
advisor: Professor Aaron Quinlan  
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 DNA mutation and genome evolution  
○ Implementing AI/ML to detect unusual patterns of genetic variation in human genomes
- 5/21-10/22 **Senior Data Scientist**, *Recursion Pharmaceuticals*  
○ Created interactive dashboards to facilitate the interpretation of massive cellular imaging datasets  
○ Wrote and maintained statistical methods in production-level code repositories  
○ Collaborated with teams of scientists and product managers throughout the company
- 3/20-5/21 **Postdoctoral Fellow**, *Harris Lab*, Univ. of Washington, Dept. of Genome Sciences  
○ Applied linear modeling techniques to identify genes that influence mammalian mutation rates  
○ Created pipelines to process terabytes of whole-genome sequencing data  
○ Shared research findings in high-profile scientific journals and invited seminars

## Skills

- Programming **Python (proficient), R (familiar), SQL (familiar)**  
Computing **Unix, git, Snakemake, Sun Grid Engine, SLURM**  
Data analysis **numpy, scipy, sklearn, pandas, jupyter, unit testing frameworks**  
AI/ML **Tensorflow (familiar), convolutional neural networks, autoencoders**  
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 rate 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**  
2017 **Lassonde Student Innovator**, *University of Utah*  
2016 & 2017 **Epstein Award Semifinalist**, *American Society of Human Genetics*