

# Megan Le

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## EDUCATION

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- Ph.D. in Computer Science** 2023 – present  
Massachusetts Institute of Technology  
Advisors: Heng Li and Bonnie Berger
- M.S. in Computational Science, Engineering, and Mathematics** 2021 – 2023  
University of Texas at Austin  
Advisor: Vagheesh Narasimhan
- B.S. in Computer Science, High Honors** 2018 – 2022  
University of Texas at Austin
- B.S. in Mathematics, High Honors** 2018 – 2022  
University of Texas at Austin
- B.A. in English Literature, Highest Honors** 2018 – 2022  
University of Texas at Austin

## RESEARCH AND WORK EXPERIENCE

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- Bonnie Berger Lab and Heng Li Lab, PhD Student** Jan 2024 – present  
Massachusetts Institute of Technology, Harvard Medical School, and Dana-Farber Cancer Institute  
Advisors: Bonnie Berger and Heng Li
- Working on methods for genome assembly and read alignment
  - Developed a method for somatic SV calling using the structure of co-assembly graphs
- Vagheesh Narasimhan Lab, Research Assistant** Sep 2020 – Jun 2023  
University of Texas at Austin  
Advisors: Vagheesh Narasimhan and Arbel Harpak
- Used models of admixture to detect signals of natural selection in ancient DNA data
- Computational Research in Ice and Ocean Systems Group, Research Course** Jan 2021 – May 2022  
University of Texas at Austin  
Advisors: David Halpern (Scripps Institution of Oceanography) and Patrick Heimbach
- Evaluated ECCOv4r4 model currents in the Equatorial Undercurrent
- The Federal Reserve Board, Software Development Intern** Jun 2020 – Aug 2020  
Data Modeling Systems Team
- Developed backend speech-to-text translation module for informational chat bot
  - Performed unit testing on organization's data management system
- Computational Materials Stream, Research Assistant** Jan 2019 – May 2020  
University of Texas at Austin  
Advisor: Juliana Duncan
- Developed software for chemical system simulation with haptic feedback
  - Evaluated negative curvature solutions for high-dimensional Newton's Method

## PREPRINTS / UNDER REVIEW

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2. **Le MK**, Qin Q, Li H. Long-range somatic structural variation calling from matched tumor-normal co-assembly graphs. *bioRxiv* (2024). doi: [10.1101/2024.07.29.605160](https://doi.org/10.1101/2024.07.29.605160). *Under review*.
1. **Le MK**, Smith OS, Akbari A, Harpak A, Reich D, Narasimhan VM. 1,000 ancient genomes uncover 10,000 years of natural selection in Europe. *bioRxiv* (2022). doi: [10.1101/2022.08.24.505188](https://doi.org/10.1101/2022.08.24.505188). *Under review*.

## PUBLICATIONS

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1. Halpern D, **Le MK**, Smith TA, Heimbach P. Comparison of ADCP and ECCOV4r4 Currents in the Pacific Equatorial Undercurrent. *Journal of Atmospheric and Oceanic Technology*, 40(11), 1369-1381 (2023). doi: [10.1175/JTECH-D-23-0013.1](https://doi.org/10.1175/JTECH-D-23-0013.1)

## CONFERENCE TALKS

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1. "1,000 ancient genomes uncover 10,000 years of natural selection in Europe." Platform talk at the American Society of Human Genetics 2022 Annual Meeting; Los Angeles, CA, October 2022.

## INVITED TALKS / SEMINARS

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3. University of Illinois at Urbana-Champaign, Bioinformatics and Computational Biology groups, March 2023. "1,000 ancient genomes uncover 10,000 years of natural selection in Europe."
2. Variant Effects Seminar Series, virtual, December 2022. "1,000 ancient genomes uncover 10,000 years of natural selection in Europe."
1. UT Austin RNA & DNA Club Seminar, November 2022. "1,000 ancient genomes uncover 10,000 years of natural selection in Europe."

## POSTERS

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2. A genome-wide scan of time-stratified ancient DNA data to uncover 10,000 years of natural selection in Europe. UT Austin Undergraduate Research Forum; Austin, TX, April 2022.
1. Modifying the Atomistic Machine-learning Package for real-time atomic simulations with DFT accuracy. Texas Advanced Computing Center Symposium for Texas Researchers; Austin, TX, September 2019.

## TEACHING EXPERIENCE

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- Principles of Computer Systems (CS 439)**, Teaching Assistant Jan 2020 – Dec 2021  
University of Texas at Austin, Department of Computer Science  
Instructor: Alison Norman
- Led weekly discussion sections, held office hours, graded projects, and wrote/graded exams
- Computational Materials Stream**, Research Mentor Jan 2020 – May 2021  
University of Texas at Austin, Oden Institute for Computational Engineering and Sciences
- Helped students learn programming, complete labs, and develop individual research projects
- Sanger Learning Center**, Tutor Aug 2019 – Dec 2020  
University of Texas at Austin
- Tutored Data Structures, Probability, Discrete Math, Calculus, and Introductory Programming
- Probability I (M 362K)**, Grader Aug 2019 – Dec 2019  
University of Texas at Austin, Department of Mathematics

## HONORS AND AWARDS

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<b>Dean's Honored Graduate</b> University of Texas at Austin, College of Natural Sciences	May 2023
<b>Graduate of Distinction in Service &amp; Leadership</b> University of Texas at Austin, College of Natural Sciences	May 2023
<b>Graduate of Distinction in Research</b> University of Texas at Austin, College of Natural Sciences	May 2022, May 2023
<b>MIT EECS Great Educators Fellowship</b> Massachusetts Institute of Technology, Department of Electrical Engineering and Computer Science	Feb 2023
<b>NCWIT Collegiate Award Finalist</b> National Center for Women & Information Technology	Dec 2021
<b>Undergraduate Research Fellowship</b> University of Texas at Austin, Office of the Vice President for Research	Nov 2021
<b>James F. and Bernice M. Hinton Endowed Presidential Scholarship</b> University of Texas at Austin	May 2021
<b>Advanced Summer Research Fellowship</b> University of Texas at Austin, Texas Institute for Discovery Education in Science	Apr 2021
<b>Eva Stevenson Woods Endowed Presidential Scholarship</b> University of Texas at Austin	May 2020
<b>Second Year Excellence Award</b> University of Texas at Austin, College of Natural Sciences	Mar 2020
<b>Freshman Research Initiative Summer Research Fellowship</b> University of Texas at Austin, Texas Institute for Discovery Education in Science	Apr 2019

## SERVICE, OUTREACH, AND LEADERSHIP

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### Outreach

MIT EECS Graduate Application Assistance Program, Mentor	Fall 2023
UT Austin ACM 4 Change, Committee Member	May 2021 - Dec 2022
UT Austin Coding in the Classroom, Mentor	Oct 2019 - Mar 2020
Hour of Code, Teacher	Dec 2018, 2019, 2022

### Other Leadership

UT Engineering Chamber Orchestra, Engineering Council Representative	May 2021 – May 2022
UT Engineering Chamber Orchestra, Recruitment Coordinator	May 2020 – May 2021