Curriculum Vitae

Yasamin Tabatabaee

Contact Information

Siebel School of Computing and Data Science
University of Illinois at Urbana-Champaign
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Education

- Ph.D. in Computer Science, University of Illinois at Urbana-Champaign, 8/2021-Present
  Advisor: Prof. Tandy Warnow, GPA: 4.0/4.0
- M.S. in Computer Science, University of Illinois at Urbana-Champaign, 2023
  Advisor: Prof. Tandy Warnow, GPA: 4.0/4.0
- B.S. in Computer Engineering, Sharif University of Technology, Tehran, Iran, 2021
  GPA: 19.11/20.00 (3.98/4.0), top 5% of class

Publications

Note: * indicates equal contribution.

12. T. Warnow, **Y. Tabatabaee** and S.N.Evans. (2024). Advances in Estimating Level-1 Phylogenetic Networks from Unrooted SNPs. Journal of Computational Biology. [paper]

11. **Y. Tabatabaee**, E. Wedell, M. Park and T. Warnow. (2024). FastEnsemble: A new scalable ensemble clustering method. Accepted to International Conference on Complex Networks and Their Applications 2024 [preprint][code][data]

10. M. Park*, **Y. Tabatabaee***, V. Ramavarapu*, B. Liu, V. Pailodi, R. Ramachandran, D. Korobskiy, F. Ayres, G. Chacko, and T. Warnow. (2024) Well-Connectedness and Community Detection. PLOS Complex Systems [paper][code] [data]

9. T. Warnow, **Y. Tabatabaee** and S.N. Evans. (2024) Statistically Consistent Estimation of Rooted and Unrooted Level-1 Phylogenetic Networks from SNP data. Proceedings of RECOMB Comparative Genomics (RECOMB-CG) 2024. [paper]

8. S. Arasti*, P. Tabaghi*, **Y. Tabatabaee** and S. Mirarab. (2024). Optimal Tree Metric Matching Enables Phylogenomic Branch Length Reconciliation. International Conference on Research in Computational Molecular Biology (RECOMB 2024). [preprint][code][data]

7. **Y. Tabatabaee**, S. Roch and T. Warnow. (2023). QR-STAR: A polynomial-time statistically consistent method for rooting species trees under the coalescent. Journal of Computational Biology, Volume 30, Number 11 (Special issue for extended RECOMB 2023 papers). [paper][code][data]

6. **Y. Tabatabaee**, C. Zhang, T. Warnow and S. Mirarab. (2023). Phylogenomic branch length estimation using quartets. Bioinformatics, Vol. 39, Issue Supplement 1, pages i185-i193, special issue for Intelligent Systems for Molecular Biology and European Conference on Computational Biology (ISMB/ECCB) 2023 [paper][code][data]

5. M. Park*, **Y. Tabatabaee***, V. Ramavarapu*, B. Liu, V. Pailodi, R. Ramachandran, D. Korobskiy, F. Ayres, G. Chacko, and T. Warnow. (2023) Identifying well connected communities in real-world and synthetic networks. International Conference on Complex Networks and Their Applications 2023 [paper][code][data]

4. **Y. Tabatabaee**, S. Roch and T. Warnow. (2023). Statistically consistent rooting of species trees under the multispecies coalescent model. International Conference on Research in Computational Molecular Biology (RECOMB 2023), pages 41-57 [paper][code][data]

3. J. Willson, **Y. Tabatabaee**, B. Liu, and T. Warnow. (2023). DISCO+QR: rooting species trees in the presence of GDL and ILS. Bioinformatics Advances, Volume 3, Issue 1, vbad015, special issue for ISCB-Latin America Conference on Bioinformatics (ISCB-LA) 2022 [paper][data]

2. **Y. Tabatabaee**, K. Sarkar, and T. Warnow (2022). Quintet Rooting: rooting species trees under the multi-species coalescent model. Bioinformatics, Vol. 38, Supplement 1, pages i109-i117, special issue for Intelligent Systems for Molecular Biology (ISMB) 2022 [paper][code][data]

1. D. Lin, **Y. Tabatabaee**, Y. Pote and D. Jevdjic. (2022). Managing reliability skew in DNA storage. Proceedings of the 49th Annual International Symposium on Computer Architecture (ISCA 2022). pages 482–494. [paper]

Papers in submission

- **Y. Tabatabaee**, C. Zhang, S. Arasti and S. Mirarab. (2025). Species tree branch length estimation despite incomplete lineage sorting, duplication, and loss.
- **Y. Tabatabaee**, S. Claramunt, and S. Mirarab. (2025). Coalescent-based branch length estimation improves dating of species trees.
- S. Arasti*, P. Tabaghi*, **Y. Tabatabaee** and S. Mirarab. (2025). Branch length transforms using optimal tree metric matching
- **Y. Tabatabaee**, E. Wedell, M. Park and T. Warnow. (2025). Scalable ensemble clustering on large networks.

Thesis

- **Y. Tabatabaee** (2023). Improving the accuracy of community detection methods using Connectivity Modifier. MS thesis. University of Illinois Urbana-Champaign [thesis][code][data]

Research Experience

- Visiting Research Scholar, Department of Electrical and Computer Engineering, University of California San Diego, 5/2024-8/2024, Supervisor: Prof. Siavash Mirarab
- Graduate Research Assistant, Department of Computer Science, University of Illinois at Urbana-Champaign, 8/2021-Present, Supervisor: Prof. Tandy Warnow
- Research Intern, School of Computing, National University of Singapore, Singapore, 7/2019-9/2019
- Undergraduate Research Assistant, Sharif University of Technology, Bioinformatics Research Laboratory, Tehran, Iran, 6/2018-9/2018

Awards & Fellowships

- Dissertation Completion Fellowship, Graduate College, UIUC, 8/2024-8/2025
- Mavis Future Faculty Fellowship, Grainger College of Engineering, UIUC, 8/2024-8/2025
- Firdawsi Science Award, Graduate College, UIUC, 1/2025
- C.L. and Jane Liu Award, Department of Computer Science, UIUC, 3/2023
- *Travel Awards*: RECOMB 2023 Travel Fellowship, UIUC Graduate College Conference Presentation Award 2023, ISMB 2022 Virtual Fellowship
- Iranian National Elites Foundation (INEF) Fellowship, Tehran, Iran, 9/2016-9/2020
- Silver Medal in 33rd Iranian National Mathematical Olympiad, Tehran, Iran, 9/2015
- Bronze Medal in 2nd Iranian National Geometry Olympiad (IGO), Tehran, Iran, 9/2015
- Bronze Medal in 3rd European Girls' Mathematical Olympiad (EGMO), Antalya, Turkey, 4/2014
- Member of the National Organization for Development of Exceptional Talents (NODET), Tehran, Iran, 9/2009–9/2016

Teaching Experience

- Teaching Assistant, University of Illinois at Urbana-Champaign
  * Fall 2022 and 2023, CS 581: Algorithmic Genomic Biology [webpage], Instructor: Prof. Warnow
- Teaching Assistant, Sharif University of Technology, Tehran, Iran
  * Fall 2020, CE 719: Deep Learning (graduate course) [course material], Instructor: Prof. Beigy
  * Fall 2020, CE 717: Machine Learning, Instructor: Prof. Soleymani
  * Spring 2020, CE 254: Design of Algorithms (co-head TA) [course material], Instructor: Prof. Sharifi Zarchi
  * Fall 2019, CE 254: Linear Algebra, Instructor: Prof. Motahari
  * Spring 2018, CE 254: Data Structures & Algorithms, [course material] Instructor: Prof. Sharifi Zarchi
  * Spring 2018, CE 115: Discrete Structures, Instructor: Prof. Abam
  * Fall 2017, CE 153: Fundamentals of Programming, Instructor: Prof. Rivadeh
- Mathematics Instructor, Farzanegan High School, Tehran, Iran, 9/2016-6/2017
  * Teaching Combinatorics and Geometry to students preparing for Iranian National Mathematical Olympiad

Talks

- "Novel computational methods for discordance-aware phylogenomic analysis"
  - University of California Los Angeles, Sankararaman lab meeting, December 2024
  - Princeton University, Raphael lab meeting, November 2024
  - University of California San Diego, Mirarab lab meeting, July 2024
- "Phylogenomic branch length estimation using quartets"
  - 31st Conference on Intelligent Systems for Molecular Biology (ISMB), July 2023. [talk][slides]
  - 19th UIUC Coordinated Science Laboratory Student Conference (CSLSC), February 2024
- "Statistically consistent rooting of species trees under the multispecies coalescent model"
  - 27th Conference on Research in Computational Molecular Biology (RECOMB), April 2023. [talk][slides]

- "Quintet Rooting: rooting species trees under the multi-species coalescent model"
  - 30th Conference on Intelligent Systems for Molecular Biology (ISMB), July 2022. [talk][slides]
  - UIUC Computational Biology and Bioinformatics Seminar, September 2022

Academic Services

- Conference reviewing: RECOMB 2024
- Journal reviewing: Bioinformatics Advances 2024

References

- Tandy Warnow (PhD advisor)
  Grainger Distinguished Chair in Engineering
  Siebel School of Computing and Data Science
  University of Illinois at Urbana-Champaign
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- Siavash Mirarab
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- Sebastien Roch
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