WEN-HORNG SHEU

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Research Experience

Graduate Research Assistant 2023 - Present
University of California, Davis *Davis, CA*

- Research area: distributed algorithms, streaming algorithms.
- Studied the maximum matching problem in distributed and streaming settings.

Research Assistant 2021 - 2023
National Tsing Hua University *Hsinchu, Taiwan*

- Research area: parameterized algorithms, computational biology.
- Proposed new algorithms for problems that have applications in cancer genomics and phylogenetic analysis.
- Created problems for the International Collegiate Programming Contest (ICPC).

Publications

1. **Parameterized Complexity for Finding a Perfect Phylogeny from Mixed Tumor Samples**
   Wen-Horng Sheu and Biing-Feng Wang (contribution-based order)
   SIAM Journal on Discrete Mathematics (SIDMA), 2023

2. **New Algorithms for Constructing Frequency Difference Consensus Trees**
   Biing-Feng Wang, Chih-Yu Li, and Wen-Horng Sheu (contribution-based order)
   IEEE Transactions on Computational Biology and Bioinformatics (TCBB), 2025

Recent Manuscripts

Following the convention in theoretical computer science, author names are ordered alphabetically (unless stated otherwise).

1. **Faster Semi-streaming Matchings via Alternating Trees**
   Slobodan Mitrović, Anish Mukherjee, Piotr Sankowski, and Wen-Horng Sheu
   Submitted, 2024
   Note: This paper was accepted as a contributed talk at Workshop on Local Algorithms (WoLA) 2024, in the title "Toward Optimal Semi-streaming Algorithm for $(1+\epsilon)$-approximate Maximum Matching".

2. **Faster MPC Algorithms for Approximate Allocation and Matching in Uniformly Sparse Graphs**
   Jakub Łącki, Slobodan Mitrović, Srikkanth Ramachandran, and Wen-Horng Sheu
   Submitted, 2024

3. **Kernelization and Approximation Algorithms for Finding a Perfect Phylogeny from Mixed Tumor Samples**
   Wen-Horng Sheu and Biing-Feng Wang (contribution-based order)
   Submitted, 2023

Education

PhD in Computer Science at the University of California, Davis *2023-Present*
GPA: 4.0/4.0

Master of Computer Science at National Tsing Hua University *2019-2021*
GPA: 3.9/4.0

Bachelor of Computer Science at National Tsing Hua University *2015-2019*
GPA: 3.85/4.0

Honors and Awards

- **Contributed Talk** at *Workshop on Local Algorithms, 2024*
  hosted by *Simons Institute for the Theory of Computing, UC Berkeley*
  - Presented our recent result, an improved algorithm for $(1+\epsilon)$-approximate maximum matching on streaming and distributed computational models.
- **Gold Award** in *the 2019 ICPC Asia Pacific Taipei-Hsinchu Regional Contest*
- **Google Code Jam 2021 Round 3 Qualifier**
  - Placed 255-th in Round 3, within top 1% of all 37,000+ participants of the qualification rounds
- **Second Place Award** in *the ACM TAU 2018 Contest on Path Reporting*
- **Grandmaster** on *Codeforces*
  - Codeforces is a prestigious online competitive programming platform.
  - Ranked as a grandmaster (max rating 2551), top 1% globally
  - Placed top 100 (out of 10,000+ contestants globally) in four different contests
- **Meta Hacker Cup 2020 Round 2 Qualifier**
  - Placed 264-th in Round 2, better than 32,000+ contestants who participated in the qualification round.

Teaching Experience

Teaching Assistant
University of California, Davis *Davis, CA*

- TA for Algorithm Design and Analysis (Summer Session I 2024)
- TA for Special Topics in Theoretical Computer Science (Winter 2023)

Teaching Assistant October 2021 - March 2023
National Tsing Hua University *Hsinchu, Taiwan*

- TA for Computational Geometry (Spring 2022, Spring 2020)
- TA for Parallel Algorithm Design (Spring 2022, Fall 2019)
- TA for Design and Analysis of Algorithms (Fall 2021, Fall 2020, Fall 2019)

Skills

Coding Languages	C, C++, Python
Tools	Git, LaTeX, Microsoft Office
Languages	English (fluent), Chinese (native)