

EDUCATION

- **University of California Santa Cruz.** Santa Cruz, CA, USA 09/2017-present
 - Ph.D. in Computer Science expected in September 2023, GPA: 3.96/4.00 Advisor: Prof. Phokion G. Kolaitis (advancement to candidacy in December 2021)
- **National Taiwan University.** Taipei, Taiwan 09/2007-06/2009
 - M.S. in Computer Science and Information Engineering Advisor: Prof. Kun-Mao Chao
- **National Cheng Kung University.** Tainan, Taiwan 09/2003-06/2007
 - B.S. in Electrical Engineering
 - Outstanding Achievement Award for Physics Contest 2004: Top 0.5% among 1630 participants
 - Excellent Achievement Award for Calculus Contest 2004: Top 2% among 2324 participants

RESEARCH INTERESTS

Logic in Computer Science, Graph Theory and Homomorphisms, Algorithm Design

PUBLICATIONS

- B. ten Cate, V. Dalmau, Ph. G. Kolaitis, and W.-L. Wu. When do homomorphism counts help in query algorithms? In arXiv:2304.06294 (to appear in ICDT 2024).
- W.-L. Wu. Query Algorithms Based on Homomorphism Counts. In *Structure Meets Power Workshop (Extended Abstract)*, pages 24 - 26, July 4, 2022.
- A. Atserias, Ph. G. Kolaitis, and W.-L. Wu. On the Expressive Power of Homomorphism Counts. In *36th Annual ACM/IEEE Symposium on Logic in Computer Science, LICS 2021, Rome, Italy, June 29 - July 2, 2021*, pages 1 - 13. IEEE, 2021.

TALKS

- Contributed Talk for *Structure Meets Power Workshop ICALP 2022*, Paris, France (participated virtually via Zoom): Query Algorithms Based on Homomorphism Counts, 2022.
- Contributed Talk for *Finite and Algorithmic Model Theory Seminar 22051*, Schloss Dagstuhl, Germany (invited participant): On Capturing Some Equivalence Relations by Homomorphism Counts, 2022.

TEACHING EXPERIENCE

Teaching assistant at University of California Santa Cruz for the courses: Computational Models, Programming Abstractions (Python), Comparative Programming Languages, Introduction to Programming in Java, Introduction to Analysis of Algorithms

PROGRAMMING

C, Python, Objective-C, Haskell, Agda

WORK EXPERIENCE

- **Research Assistant**, Institute of Information Science, Academia Sinica, Taipei, Taiwan 10/2016-07/2017
 - Assisted research on formal methods using process calculus and session types and on various fragments of counting logic
- **Software Engineer**, Fonestock Technology Inc., Taipei, Taiwan 05/2016-09/2016
 - Performed supportive work in maintenance and restructuring of source code of iOS applications for stocks, futures and options investment, improved performance, and resolved issues of application hang
- **Research Assistant**, Institute of Information Science, Academia Sinica, Taipei, Taiwan 11/2010-12/2011
 - Assisted research on computer-aided theorem-proving, derived formal proofs using Agda and Coq, and organized tutorials on functional programming (mainly Haskell) and on formalization of proofs in intuitionistic logic and foundational mathematics