

EDUCATION

- **University of Michigan – College of Engineering** Michigan, U.S.A.
Bachelor of Computer Science; Majored GPA – 4.0/4.0 Aug. 2021 - May. 2023
- **University of Michigan – College of Literature, Science, and the Arts** Michigan, U.S.A.
Bachelor of Honor Math (Honor Program); GPA – 3.751/4.0 Aug. 2021 - May. 2023
- **Shanghai Jiao Tong University – UM-SJTU Joint Institute** Shanghai, China
Bachelor of Electrical and Computer Engineering; GPA – 3.6/4.0 Aug. 2019 - May. 2023

RESEARCH EXPERIENCE

- **Network Failure Detection** CoE, UMich, Michigan, U.S.A.
Undergraduate Researcher Mar. 2022 - Present
 - **General:** Understanding the compact cuts representation and their implication on network failure detection.
 - **Balanced Separator:** An improved algorithm on finding small balanced separator in almost linear time.
- **A Universal Law of Separability via GCN** SI, UMich, Michigan, U.S.A.
Undergraduate Researcher Feb. 2022 - Present
 - **General:** Theoretical analysis on linear separability ability of non-i.i.d. semi-supervised node-level tasks.
 - **Separability:** Toward understanding the success of 1-layer GCN on worst case real-world data the very first time.
- **Deep Learning Foundation** CoE, UMich, Michigan, U.S.A.
Undergraduate Researcher Mar. 2022 - Present
 - **General:** Fundamental understanding of deep neural network with theoretical analysis supported by SURE Program.
 - **Manifold Hypothesis:** Characterizing the interplay between intrinsic dimension and the isoperimetry assumptions.
- **Travel the Same Path: A Novel Approach** CoE, UMich, Michigan, U.S.A.
Independent Researcher Jan. 2022 - Apr. 2022
 - **General:** Using imitation learning to speed up deterministic algorithm while maintaining the exactness of the solution.
 - **Derandomized:** Demonstrate a potential next step of using AI to solve combinatorial optimization without approximation.

TEACHING EXPERIENCE

- **EECS475 Introduction to Cryptography** CoE, UMich, Michigan, U.S.A.
Instructional Aide Jan. 2023 - May. 2023
 - **General:** Collaborated with the teaching staff as an instructional aide of an 70+ student course on the main CS track. Hold discussion & office hour weekly.
 - **Topics:** Upper-level CS course focuses on historic ciphers, symmetric encryption (pseudo-random generators, stream ciphers, pseudo-random functions/permutations), message authentication, cryptographic hash functions, and public key encryption.
- **EECS572 Randomness and Computation** CoE, UMich, Michigan, U.S.A.
Instructional Aide Aug. 2022 - Dec. 2022
 - **General:** Collaborated with the teaching staff as an instructional aide of an 70+ student course on the M.S. theory CS track. Hold discussion & office hour weekly.
 - **Topics:** A graduate-level theory course focuses on randomness and computation, e.g., randomized algorithm, randomized complexity, pseudo-random generator, applications in cryptography.
- **VV285 Honor Mathematics III** UM-SJTU JI, SJTU, Shanghai, China
Instructional Aide Mar. 2021 - Aug. 2021
 - **General:** Collaborated with the teaching staff as an instructional aide of a 150+ student course on the main B.S. ECE track. Hold discussion & office hour weekly.
 - **Topics:** The third proved-based math course in the series of rigorous mathematical analysis courses. Focuses on multi-variables real analysis, e.g., finite dimensional linear algebra theory, topology of normed spaces, potentials and vector fields, higher derivatives, Riemann integral in \mathbb{R}^n , integration on curves and surfaces, Green, Stokes and Gauß theorem.
 - **Competition:** Hold the 1st UM-SJTU JIntegration Bee competition.
- **VV186 Honor Mathematics II** UM-SJTU JI, SJTU, Shanghai, China
Instructional Aide Sep. 2020 - Dec. 2020
 - **General:** Collaborated with the teaching staff as an instructional aide of a 200+ student course on the main B.S. ECE track. Hold discussion & office hour weekly.
 - **Topics:** The second proved-based math course in the series of rigorous mathematical analysis courses. Focuses on one-variable real analysis, e.g., set theory, construction of \mathbb{R} , ϵ - δ definitions, uniform continuity, etc.

HONORS AND AWARDS

- **Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship** SJTU, Shanghai, China
First Price (Ranked 2) among all HK, MC and TW students in SJTU
Oct. 2021
- **Undergraduate Excellent Scholarship** SJTU, Shanghai, China
Third Price among all students in UM-SJTU JI
Nov. 2020
- **Bao Gang Excellent Scholarship** SJTU, Shanghai, China
Ranked 3 among all Taiwan students in SJTU
Jun. 2020
- **Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship** SJTU, Shanghai, China
Ranked 1 among all HK, MC and TW students in UM-SJTU JI
Dec. 2019