Chentian Wu

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Education

University of Illinois Urbana-Champaign — Aug. 2026 – Present
Ph.D. Student in Electrical and Computer Engineering — Champaign, IL, USA
Programming languages, logic, and applied cryptography.

University of Wisconsin–Madison — Jan. 2024 – Dec. 2025
B.Sc. in Mathematics (Honors) and Computer Science (Honors) — Madison, WI, USA
GPA: 3.982/4.0
Selected Courses: Theory of Computation, Theory and Design of PLs, Program Synthesis and Verification, Principles of PLs, System Verification, PLs for Quantum Computing, General Topology, Algebraic Topology, Real Analysis I & II, Modern Algebra I & II, Modern Number Theory, Combinatorics.

Nanjing University — Sep. 2021 – Dec. 2023
B.Eng. in Computer Software Engineering (transferred out) — Nanjing, China
GPA: 4.36/5.0
Selected Courses: Compilers, Mathematical Logic, Software Testing.

Publications

Efficient Meta-synthesis for Finite-Aspect Checkable Languages
Chentian Wu, *Xiaokang Qiu*
Conditionally accepted at Principles of Programming Languages (POPL) 2027.

IMPROMPT: A Language Framework for Prompt Programming
Chentian Wu, *Shengyuan Yang*, *Adithya Murali*
Preprint, 2026. DOI: 10.48550/arXiv.2607.22683

Free Constructions and Monadicity
Chentian Wu, supervisors: *Marco Paviotti* and *Uri Andrews*
Honors bachelor's thesis, UW–Madison, 2025. URL: https://digital.library.wisc.edu/1793/97808
Awarded **R. Creighton Buck Prize** (Excellence in Undergraduate Research).

LLM for Test Script Generation and Migration: Challenges, Capabilities, and Opportunities
Shengcheng Yu, Chunrong Fang, Yuchen Ling, Chentian Wu, Zhenyu Chen
Software Quality, Reliability, and Security (QRS) 2023. DOI: 10.1109/QRS60937.2023.00029

Additional Writings

Constructible Regular n-gons [.pdf] — MATH 542, 2025
What is Homotopical about Homotopy Type Theory? [.pdf] — MATH 552, 2025
Elliptic Curve Cryptography on Edwards Curves [.pdf] — MATH 567, 2025

Additional Research Experience

Zero-Knowledge Model Counting. *Research Assistant* — Sep. 2026 – Present
Advised by Prof. Ning Luo — UIUC

Lean*. *Research Assistant* — Sep. 2026 – Present
Advised by Prof. Madhusudan Parthasarathy — UIUC

Zero-Knowledge OCaml. *Research Assistant* — Jun. 2025 – Present
Advised by Prof. Ning Luo and Dr. Yuyang Sang — UW–Madison

Work Experience

Alibaba Cloud. *Intern* May 2026 – Present
Supervised by Dr. Zhilong Zheng and Dr. Ennan Zhai Hangzhou, China
Profiling LLM training and inference systems.

Additional Experience

Midwest PL Summit. *Participant*, U of Iowa Nov. 2026

Oregon PL Summer School. *Participant*, U of Oregon Jun. 2025 – Jul. 2025
Types, Logic, and Formal Methods
Awarded **OPLSS 2025 Fellowship**

Directed Reading Program. *Participant*, UW–Madison Sep. 2024 – Dec. 2024
Mentored by Yiqing Wang
Studied Chapters 1–4 of Model Theory

Teaching Experience

UIUC
CS 477: Formal Software Development Methods. *Teaching Assistant* S27

UW–Madison
MATH 551: Elementary Topology. *Course Assistant* F25 + S25
MATH 521: Analysis I. *Grader* F25
CS 538: Theory and Design of Programming Languages. *Peer Mentor* S25
Math Learning Center. *Proof Table Tutor* F24
CS Learning Center. *Tutor* F24

Presentations

PL/FM/SE Seminar, UIUC
Learning Logics: From Theory to Practice [slides] Oct. 7, 2026

Graduate Quantum PL Seminar, UW–Madison
Quantitative Robustness Analysis of Quantum Programs [slides] Nov. 10, 2025
Linear Dependent Type Theory for Quantum Programming Languages [slides] Oct. 8, 2025

madPL Seminar, UW–Madison
What is Monadic about Algebraic Effects? [slides] Oct. 7, 2025

Directed Reading Program, UW–Madison
Ramsey Theory Meets Infinity: A Proof of the Erdős–Rado Theorem [slides] Dec. 4, 2024

Honors & Awards

UW–Madison R. Creighton Buck Prize Fund Scholarship May 2025
Awarded to undergraduates completing the strongest senior research project.
OPLSS Student Fellowship May 2025
UW–Madison Dean's List Dec. 2025, 2024
UW–Madison Summer Internship Scholarship May 2024
CitiCup Financial Competition, Third Prize Apr. 2024
National College Students' Mathematical Competition, First Prize of Jiangsu Province Mar. 2023
Nanjing University Renmin Scholarship, First Prize Oct. 2022
Top 10% based on academic performance.

Skills

- Programming Languages: Rust, Haskell, Rocq, TypeScript, Java, C/C++, Python, SQL.
- Tools & Frameworks: Iris, SMT, SyGuS, LLVM, ANTLR4.
- Languages: English (Fluent), Chinese (Native).