# Puming Liu

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 screenl
Shanghai, China

## EDUCATION

• **New York University Shanghai** — 2022 - 2026
*B.Sc. in Computer Science, Minor in Mathematics* — Shanghai, China
◦ GPA: 3.98/4.00

## EXPERIENCE

• **NYU Shanghai** — *Spring & Fall 2023*
*Course Specific Learning Assistant* — Shanghai, China
◦ Assisted in teaching *Data Structures* and *Databases*
◦ Held regular office hours and review sessions, and co-facilitated recitations sections with teaching assistants.

## PROJECTS

• **Axiomatic Foundations of Convex Analysis in Proof Assistants** — *Summer 2024*
*NYU Shanghai Dean's Undergraduate Research Fund* — [ ]
◦ Advised by Prof. Paul-André Melliès.
◦ Examined the categorical semantics of convex spaces (a.k.a. barycentric algebras), with a model of linear logic.
◦ Constructed a symmetric monoidal category for convex algebras and formalized it with the Rocq proof assistant.

• **NL2Lean** — *Summer 2024 - Ongoing*
◦ Instructed by Prof. Hongyi Wen.
◦ Working on an interactive system for translating mathematical proofs in semi-formal natural language into Lean4 code with natural language processing methods.

• **Formal Verification of Probabilistic Programs Using Separation Logic** — *Spring 2025 - Ongoing*
*NYU Shanghai Dean's Undergraduate Research Fund* — [ ]
◦ Advised by Prof. Joseph Tassarotti.
◦ Expanded upon the existing probabilistic separation logics, proving partial completeness of these logics on pure programs.
◦ Contributed to several ongoing projects of this line of work.

## SKILLS

• **General-Purpose Programming Languages:** Proficient in C, C++, Python, Rust, Haskell, OCaml, Racket, etc.
• **Proof Assistants:** Experienced with Coq and Lean4.
• **Mathematics:** Familiar with probability theory, abstract algebra, category theory, etc.

## HONORS AND AWARDS

• **Global Elite Scholarship** — *2022 - 2026*
*NYU Shanghai*

• **Dean's List for Academic Year** — *Academic Years 2022, 2023, 2024*
*NYU Shanghai*
◦ Recognized for excellence in academics.

• **Second Place** — *November 2024*
*ICPC Greater New York Regional* — [ ]
◦ Ranked 2$^{nd}$ out of 83 teams from the greater New York region.

• **Rank 28** — *May 2025*
*ICPC North America Championship* — [ ]
◦ Ranked 28$^{th}$ out of 50 teams from North America.