Anthony Schurle

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Research Interests

Discrete Mathematics and Theoretical Computer Science

Education

Rice University	Houston, Texas
B.S. Mathematics & B.A. Computer Science	Aug. 2024 – May 2028
GPA: 3.75/4.00	

Northland Christian School	Texas
Valedictorian	Aug. 2020 – May 2024

Honors & Awards

Trustee Distinguished Academic Scholarship ($80,000), Rice University	Apr. 2025
President's Honor Roll (Expected), Rice University	Feb. 2026

Relevant Coursework

General Topology, Honors Linear Algebra, Elements of Analysis, Number Theory, Honors Ordinary Differential Equations, Honors Statistics, Algorithmic Thinking, Introduction to Computer Systems

Professional Experience

Teaching Assistant | *Algorithmic Thinking (COMP182)* — Jan. 2026 – May 2026
George R. Brown School of Engineering and Computing, Rice University
- Supporting students in understanding algorithm design, analysis, and computational complexity

Lead Research Assistant | *Positive Technology Lab* — Oct. 2025 – Dec. 2025
Rice University
- Compared Perceptual Image Distance (PID) scores from various natural random number generation sources against pseudo-random number generators to assess GAN output quality

Teaching Assistant | *Computational Thinking (COMP140)* — Aug. 2025 – Dec. 2025
George R. Brown School of Engineering and Computing, Rice University
- Led weekly lab sessions for 20+ students
- Hosted office hours with 100+ student interactions providing support in problem-solving and optimization
- Coordinated a campus-wide scavenger hunt event for 200+ attendees featuring A* search algorithm implementation, managing fellow TAs and event logistics

Projects

r2a (Disassembler) | *Python, RISC-V*
- Developed a formal specification for RISC-V instruction decoding using decision-tree optimization
- Built a testing pipeline verifying binary equivalence

Epidemiological Transmission Mapping | *Python*
- Applied graph-theoretic algorithms to model infection pathways as weighted directed graphs
- Implemented minimum spanning tree (MST) construction and evaluated alternative greedy strategies for minimizing transmission cost

Technical Skills

Languages: Python, C, Java, RISC-V, x86-64
Frameworks & Libraries: FastAPI, Pandas, NumPy, PyTorch, Matplotlib, SQLAlchemy
Tools: Git & GitHub, Docker, Linux Shell