

Anthony Schurle

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Research Interests

Graph Theory, Combinatorics, and Theoretical Computer Science

Education

Rice University	Houston, Texas
<i>B.A. Mathematics & B.S. Computer Science</i>	Aug. 2024 – May 2028
GPA: 3.74/4.00	
Northland Christian School, Texas	<i>Valedictorian</i> Aug. 2020 – May 2024

Honors & Awards

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

Relevant Coursework

Graduate: General Topology (current)
Undergraduate: Honors Linear Algebra (current), Number Theory (current), Potpourri in Extremal Graph Theory (Diestel) (current), Honors Ordinary Differential Equations, Honors Statistics, Algorithmic Thinking
Independent Study: How To Prove It (Velleman)

Professional Experience

Teaching Assistant <i>Algorithmic Thinking (COMP182)</i>	Jan. 2026 – May 2026
George R. Brown School of Engineering and Computing, Rice University	
• Supporting students in algorithm design, asymptotic analysis, and correctness reasoning	
Teaching Assistant <i>Computational Thinking (COMP140)</i>	Aug. 2025 – Dec. 2025
George R. Brown School of Engineering and Computing, Rice University	
• Led weekly lab sessions for 20+ students and hosted office hours with 100+ student interactions	
• Coordinated a campus-wide scavenger hunt event for 200+ attendees featuring A* search algorithm implementation	

Projects

Graft (Interactive Graph Theory Sandbox) <i>JavaScript, SVG</i>
• Developed a Desmos-style web application for building and exploring graphs through an intuitive visual interface
• Implemented real-time computation of graph properties (degree sequences, connectivity, bipartiteness, chromatic number)
• Created export functionality for set notation, adjacency matrices, and LaTeX TikZ code
• Designed for students testing constructions, instructors creating examples, and researchers prototyping conjectures
r2a (Disassembler) <i>Python, RISC-V</i>
• Developed a formal specification for RISC-V instruction decoding using decision-tree optimization
• Built a testing pipeline verifying binary equivalence
Epidemiological Transmission Mapping <i>Python</i>
• Modeled bacterial infection spread as a complete weighted directed graph using genetic (Hamming distance) and epidemiological data
• Implemented greedy algorithms to infer a rooted directed minimum spanning tree (RDMST) representing likely transmission pathways

Technical Skills

Languages: Python, C, Java, JavaScript, RISC-V Assembly, x86-64 Assembly
Tools: LaTeX, Git & GitHub, Docker, Linux Shell