

## Adiba Ejaz

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<b>RESEARCH INTERESTS</b>	Computational semantics, computational complexity (particularly proof complexity), automated theorem proving, algebra in computation
<b>EDUCATION</b>	<b>Columbia University</b> , New York, NY May 2023 <i>Bachelor of Arts</i> in Computer Science – Mathematics. Concentration in Philosophy. <ul style="list-style-type: none"><li>• Dean’s list for all applicable semesters</li><li>• GPA 4.06, major GPA 4.02</li></ul>
<b>RESEARCH EXPERIENCE</b>	<b>Department of Computer Science, Columbia University.</b> Spring 2022 <i>A biologically plausible parser for natural language syntax in the brain extended to center-embedded sentences and constituency trees.</i> Collaborators: Professor Christos Papadimitriou (supervisor), Mirah Shi  <b>Department of Philosophy, Columbia University.</b> Spring 2022 <i>An account of the falsehood and felicity of the Morgenbesser counterfactual: non-deterministic outcomes against the causal independence principle.</i> For Professor Jessica Collins’s graduate research seminar PHIL 9485: Conditionals.  <b>Department of Philosophy, Columbia University.</b> Spring 2022 <i>How should we prove theorems? Reviving Hilbert’s thesis with interactive proof verification.</i> For Professor Justin Clarke-Doane’s graduate research seminar PHIL 9941: Metalogic.  <b>The Billinge Group, Columbia University.</b> Summer 2020, 2021 <i>Spectral graph theory applied to topological data analysis: using distance matrices to derive higher dimensional simplices, holes, and their persistence.</i> Collaborators: Professor Simon Billinge (supervisor), Michael Waddell, John Willey
<b>CONFERENCE PROCEEDINGS</b>	<b>Papers</b> <i>Center-Embedding and Constituency in the Brain and a New Characterization of Context-Free Languages.</i> Daniel Mitropolsky, Adiba Ejaz, Mirah Shi, Christos Papadimitriou, and Mihalis Yannakakis. - Oral presentation at NALOMA, August 2022. To appear in ACL Anthology.

<b>SEMINARS</b>	Columbia Undergraduate Seminar in Theoretical Computer Science	
	• Speaker, <i>Philosophy of computation</i>	Spring 2022
	• Organiser, <i>Algorithmic game theory</i>	Summer 2021
	Directed reading, <i>Markov Chains</i> . Columbia Undergraduate Math Society	Fall 2020
	Speaker, <i>Simple random walks</i> . Association for Women in Math	Summer 2020
<b>TALKS</b>	<i>The Turing test as interactive, probabilistic proof</i> . CU TCS	Spring 2022
	<i>Computability of pure Nash equilibria</i> . CU TCS	Summer 2021
	<i>Randomised cover time of a complete graph</i> . CU UMS	Fall 2020
	<i>Why the house always wins: the gambler's ruin problem</i> . CU AWM	Summer 2020
	<i>Some discrete probability distributions</i> . CU AWM	Summer 2020
<b>INDUSTRY EXPERIENCE</b>	<b>Software Engineer Intern</b> , Stripe. New York, NY.	Summer 2022
	Building performance optimisation tool for profiling Go services.	
	<b>Software Engineer Intern</b> , ServiceNow. Kirkland, WA.	Summer 2021
	Wrote server-side class for analysing runtimes of hardware automations.	
<b>TEACHING</b>	At Columbia, I have worked as an undergraduate teaching assistant for the following courses, grading problem sets and holding weekly office hours and review sessions.	
	• COMS W 4236 Computational Complexity, Professor Xi Chen	Fall 2022
	• MATH GU 4041 Modern Algebra I, Professor Jorge Pineiro	Spring 2022
	• MATH GU 4041 Modern Algebra I, Professor Robert Friedman	Fall 2021
	• MATH UN 1208 Honors Math B, Professor Evan Warner	Spring 2021
	My teaching evaluations are available upon request.	
	I also volunteer for Corrupt the Youth, teaching introductory philosophy at systemically disadvantaged high-schools in New York.	
<b>SKILLS</b>	Programming Languages: Go, Python, C, Java, JavaScript, Bash, Assembly, L <sup>A</sup> T <sub>E</sub> X.	
	Natural languages: English (fluent), French (intermediate), Hindi (native), Urdu (native), Arabic (elementary)	
<b>INTERESTS</b>	I love to listen to punk music, write satire, and bike; sometimes all at once.	