

Liubov Samborska

11 Shelburne Rd. Yonkers, NY, 10710

(914) 294-8537; liubovs@umich.edu

Education:

University of Michigan, Ann Arbor, MI; *Class of 2028 Expected*

* PhD Computer Science and Engineering; Advised by Gregory Bodwin

Yale University, New Haven, CT; *Class of 2023*

* BS Mathematics and Computer Science, *Cum Laude*; GPA - 3.93

Yonkers Middle High School, Yonkers, NY; *Class of 2019 - Valedictorian*

Research Experience:

DIMACS Research Experience for Undergraduates: Rutgers University, Piscataway, NJ (May 2022 - Aug 2022)

* Worked with Dr. Sepehr Assadi on improving the randomized communication complexity lower bound of the Maximum Cut problem ([link to project site](#)).

* Attended guest lectures by prominent computer scientists and mathematicians.

* Showed an $\Omega(n^2)$ lower bound for weighted Max-Cut and $\Omega(n^{4/3})$ lower bound for unweighted Max-Cut.

* Attended the 2022 Czech-Slovak International Symposium on Graph Theory, Combinatorics, and Algorithms.

Yale Applied Cryptography Lab: Yale University, New Haven, CT (Sep 2022 - Present)

* Currently working on a senior project, under the supervision of Dr. Charalampos Papamanthou

* Implementing Boneh, Kim, and Montgomery's privately puncturable PRF construction, given in 2017 in the paper titled "Private Puncturable PRFs From Standard Lattice Assumptions"

Work Experience:

Yale Mathematics Department: *Calculus Undergraduate Learning Assistant*, New Haven, CT (Jun 2020 - Present)

* Worked with students in Calculus II and Multivariable Calculus courses

* Hosted office hours and workshops, held individual meetings, and graded homework (6-10 hours per week)

Millie Group: *Business Analytics Intern*, New York, NY (May 2021 - Aug 2021)

* Researched potential partner schools for an international education management and consulting company

* Wrote python code (using the pandas and numpy libraries) to analyze mentor and investor data

O'Hern Computational Physics & Biology Group: *Student Research Assistant*, New Haven, CT (May 2020 - Aug 2020)

* Worked with a MATLAB simulation of the development of the spongy mesophyll layer of leaves

* Analyzed the effect of various parameters on cell network formation

Other work experience(s): Yale Alzheimer's Disease Research Unit (*Student Research Aid: Sep 2019-May 2020*), Peabody Entomology Department (*Data Entry: Sep 2019-May 2020*)

Activities:

MathCounts Outreach: *Coach Liaison*, New Haven, CT (Oct 2020 - Present)

* Provided weekly supplementary mathematics lessons for middle school and high school students in CT

* Providing support and information to other current coaches; matching coaches with interested schools

Yale Education Tutoring Initiative: *Tutor & Board Member*, New Haven, CT (Oct 2020 - May 2022)

- * Provided mentorship and weekly geometry and trigonometry tutoring for a New Haven high school student

Lecturer Interview Student Committee: *Member*, New Haven, CT (Dec 2021 - Jan 2022)

- * Attended (5) sample lectures and (5) student-lecturer round tables in order to provide feedback during the lecturer hiring process for the Yale Computer Science Department

Other Activities: Yale Entrepreneurial Society (*Tech Team Member: Feb 2021 -May 2021*), New Haven Homework Hotline (*Tutor: Sep 2020-May 2021*), Bridges ESL (*Tutor: Feb 2020-May 2021*), New Haven Free Clinic (*Pharmacy Team Member: Sep 2019-May 2020*)

Skills:

Computer Languages

- * Proficiency in C
- * Exposure to Python, SQL, MATLAB

Languages

- * Fluent in Ukrainian, Russian, English
- * Advanced knowledge of Spanish

Typography

- * LATEX