

ELISAVETA (LISA) SAMOYLOV

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EDUCATION

Dartmouth College, Hanover, NH

June 2026

Bachelor of Arts: Majors in Mathematics and Computer Science

GPA 3.73/4.0

Relevant Coursework: Deep Learning (Coursera), Theory of Computation, Cryptography, Field and Galois Theory, Linear/Multilinear Algebra

Honors/Awards: Rufus Choate Scholar, Lovelace Scholar

Citations (Top 2% of the class) : COSC 74 (Machine Learning), COSC 76 (Artificial Intelligence)

Activities: Dartmouth Undergraduate Research Association, Association for Women in Mathematics (AWM), Women in CS, Dartmouth Math Society, Fencing, Orientation Leader

PUBLICATIONS

New Quantum Codes from Generalized Toeplitz Graphs

Andreas Garcia, Layla Jarrahy, **Elisaveta (Lisa) Samoylov**, Padmapani Seneviratne
Under review.

Properties and Comparisons of Various Graphs and Their Codes

Andreas Garcia, Layla Jarrahy, **Elisaveta (Lisa) Samoylov**

In 2024 IEEE MIT Undergraduate Research Technology Conference (URTC) [Talk]

RESEARCH EXPERIENCE / WORK EXPERIENCE

Minds, Machines, and Society Lab, Hanover NH

January 2025 -

Present

Undergraduate Research Assistant; Professor Soroush Vosoughi

- Assisting Professor Vosoughi redesign COSC74 and modify the curriculum
- Using PyTorch to evaluate validity of Goedel-Theorem-Prover LLM on FormalMath Benchmark dataset.
- Reproducing work results of Ganesh et al. and reviewing current literature on computation surrounding Ramsey problem (Make the JMM thing sound nicer)

Learning, Intelligence + Signal Processing Lab, Hanover NH
2025

September 2025 - January

Undergraduate Research Assistant; Professor Sang (Peter) Chin

- Writing and debugging python code (pytorch, numpy) for problems in machine learning on graphs, such as distance labeling and graph embedding

Theoretical and Applied Driven Mathematics (TADM) REU, Commerce TX

June 2025 - August 2025

Graph Based Error Correcting Codes; Professor Padmapane Seneviratne

- Translating complex issue of finding quantum error correcting codes into manageable problem on graphs
- Through working as a team and independently, found 2 new quantum error correcting codes within 8 weeks
- Compiling report concisely summarizing findings; two papers produced: one paper under review, one paper won Top 5 Paper at MIT URTC ([IEEE Xplore](#))
- Communicated findings via talks at (i) Texas A&M, (ii) Young Mathematicians Conference; (iii) MIT URTC, (iv) JMM
- Poster presentation at JMM

Local Interstellar Medium Lab, Hanover NH

January 2023 - June 2024

Women in Science Project (Intern); Professor Hans Mueller

- Debugged Fortran77 model (named "ZEUS") that addressed evaporation of planetary atmosphere by stellar radiation
- Organized, ran, and logged 37 trials (in Unix) with various parameters to qualitatively determine evaporation patterns
- Designed and presented a poster at the Karen E. Wetterhahn Symposium, summarizing findings from this project

TEACHING EXPERIENCE

Honors Algebra (MATH71) , Dartmouth College <i>(Incoming) Teaching Assistant, Instructor: Professor Asher Auel</i>	Sep - Nov 2025
Artificial Intelligence (COSC76/276) , Dartmouth College <i>(Incoming) Teaching Assistant, Instructor: Professor Soroush Vosoughi</i>	Sep - Nov 2025
PineCode (COSC01/10 Summer Practice) , Dartmouth College <i>Grader, Instructor: Dr. Vasanta Lakshmi Kommineni</i>	July - August 2025
Algorithms (COSC31) , Dartmouth College <i>Teaching Assistant, Instructor: Professor Deeparnab Chakrabarty</i>	June - August 2025
Machine Learning (COSC74/274) , Dartmouth College <i>Teaching Assistant, Instructor: Professor Soroush Vosoughi</i>	Mar - June 2025
Graph Theory (MATH38) , Dartmouth College <i>Teaching Assistant, Instructor: Dr. GaYee Park</i>	Mar - June 2025
Topics in Algebra (MATH31) , Dartmouth College <i>Teaching Assistant, Instructor: Professor Juliette Bruce</i>	Sept - Nov 2024

HONORS AND AWARDS

Travel Grant (\$1000), Dartmouth Women in CS (WiCS)
Lovelace Scholar (\$1200/Quarter x 2), Dartmouth College
Citation in COSC74 (Top 2% of the class), Dartmouth College
Travel Grant (\$500), Dartmouth Department of Mathematics
Travel Grant (\$500), NSF Grant DMS-2243991.
Citation in COSC76 (Top 2% of the class), Dartmouth College
Undergrad Research Assistantship (\$1600/Quarter), Dartmouth Undergraduate Research and Advising (UGAR)
Top 5 Paper, MIT URTC
Travel Grant (\$1000), Dartmouth Rockefeller Center Mini-Grant
Endowment Fellow, Dartmouth Endowment

POSTERS AND TALKS

JMM AMS - PME Undergraduate Student Poster Session, I Quantum error-correcting codes from generalized Toeplitz graphs	January 2025
MIT URTC Oral Presentation Track #1A 2024 Properties and Comparisons of Various Graphs and Their Codes	September
Young Mathematicians Conference 2024 Additive and Qubit Codes from Generalized Toeplitz Construction	August
Karen E. Wetterhahn Symposium 2023 Modeling Exoplanet Atmospheres	May

SKILLS AND INTERESTS

CS Languages / Libraries: Python, HuggingFace API, PyTorch, TensorFlow, Scikit-Learn, Pandas, Numpy, C, Bash, Unix/Linux, Java
Math Languages/Software: MatLab, LaTeX, MAGMA, SageMath, Lean
Software: Jupyter Notebook / Google CoLab, Git/Github, Google Suite, MS Office Suite
Natural Languages: English (native), Russian (fluent), Spanish (proficient)