

SKY LI

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EDUCATION

University of Toronto, St. George *September 2022 - April 2024 (Projected)*
MSc Computer Science; Supervised by Azadeh Farzan and Aleksandar Nikolov. *Projected GPA: 4.0*
Supervisors: Azadeh Farzan, Aleksander Nikolov
Thesis topic: Generating probabilistic couplings for differentially private automata.

University of Toronto, St. George *September 2018 - April 2022*
HBSc Computer Science (AI, Theory of Computation Focuses) and History Specialists *GPA: 3.97*

RESEARCH INTERESTS

Theoretical Computer Science and Formal Methods

- Differential Privacy
- Verification of Randomized Programs
- Automata and Language Theory

RESEARCH EXPERIENCE

NSERC USRA Student Researcher *Summer 2021*

- Received NSERC Undergraduate Student Research Award under Azadeh Farzan for work on programming languages and program synthesis.
- Developed a tool to automatically verify the correctness of synthesized recursive OCaml programs.
- Developed using OCaml, Dafny.

Research Opportunity Student *Summer 2019*

<https://github.com/skyli42/Foreign-Agent> *Toronto, Ontario*

- Developed and playtested two versions of an educational game about the immune system as part of the Research Opportunity Program under Prof. Steve Engels (*ROP299*).
- Implemented a specific learning strategy in the second iteration to determine its efficacy in an educational game.
- Used Agile development process.
- Developed in Unity using C#; source code available on GitHub.

Ragon Institute of MGH, MIT, and Harvard *Summer 2017 - Fall 2018*

Volunteer Researcher *Cambridge, Massachusetts*

- Assessed the feasibility and stability of different proposed HIV antigens for the development of an HIV vaccine.
- Selected type, hyperparameters of a machine learning model to predict the efficacy of antibodies against HIV.
- Extensive use of SciKit-Learn, SciPy, NumPy, PyMOL; some source code available on GitHub.

TEACHING EXPERIENCE

University of Toronto *September 2022-Present*

Teaching Assistant

- Fall 2023: CSC373 (Algorithm Design, Analysis & Complexity)
- Winter 2023: CSC324 (Principles of Programming Languages)
- Fall 2022: CSC207 (Software Design)

KTBYTE Computer Science Academy *June 2014-August 2018*

Assistant Instructor *Lexington, Massachusetts*

- Assistant instructor for computer science classes and summer camps for high school students.

WORK EXPERIENCE

Thrive Earlier Detection Corp. *June 2020 - April 2021*

Software Engineering Intern *Cambridge, MA (Remote)*

- Worked within the Azure ecosystem to develop a variety of tools for Thrive.
- Implemented DevOps tools such as SonarQube to ensure codebase quality.
- Worked with overseas software development team on React/Typescript/Node websites.
- Implemented automated CI/CD pipelines for Azure Function Apps as well as unit and integration tests.

- Node.JS, Azure DevOps, SonarQube, Spark, DataBricks, Azure Function and Logic Apps, React, Typescript.

Lexicons of Early Modern English, University of Toronto

May 2019 - August 2021

LEME Programmer

Toronto, Ontario

- Built and populated a database of Early Modern English Lexemes.
- Worked with TEI-encoded English dictionaries to develop a source comparison tool for early modern dictionaries in Python. Results available at <https://leme.utoronto.ca>.
- Extensive use of Python, NLTK, pandas, NumPy, Flask, XML, SQL.

KTBYTE.org

March-July 2018

Student Manager

Lexington, Massachusetts

- Managed two teams of 5 students each to create websites for local non-profit organizations.

KTBYTE Computer Science Academy

June 2014-August 2018

Assistant Instructor

Lexington, Massachusetts

- Assistant Instructor for computer science classes and summer camps for high school students.

AWARDS

- Summer 2021: NSERC Undergraduate Student Research Award (\$6000)
- September 2018: University of Toronto New College Admission Scholarship (\$2000)
- September 2018: University of Toronto Scholar (\$7500)
- May 2018: Robbins Fred L Trust U/Cl 4 O/W Scholarship Fund (\$500)

PUBLICATIONS

- Lexicons of Early Modern English Corpus (<https://leme.utoronto.ca/>)

EXTRACURRICULAR

University of Toronto Academic Trivia Club

May 2022-Present

President

- President of the Academic Trivia Club, a student organization of over 50 members; primary organizer of all club activities such as weekly meetings, weekend intercollegiate tournaments, and regular social events.