# Kyla Levin

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## EDUCATION

**University of Massachusetts Amherst** Expected Graduation: May 2028
M.S. / Ph.D. Computer Science, Advisor: Emery Berger
GPA: 3.92

**Tufts University** May 2023
B.S. Chemical Engineering and Computer Science, *magna cum laude*

## SKILLS

**Programming Languages:** C++, C, Java, Python, HTML5, JavaScript, Ruby
**Skills:** OpenAI, GDB, LLDB, PDB, Undo.io, Docker, Adobe, Git, SQL, Linux OS, LaTeX

## RESEARCH

**PLASMA Lab with Emery Berger** Sep 2023 – Present
University of Massachusetts Amherst

- *ChatDBG:* Developing a new debugging tool to converse with large language models, such as ChatGPT, to reduce user involvement and make conventional debuggers more accessible to software developers. Currently investigating upgrading *ChatDBG* into a reverse debugger through Undo.io. Available on ArXiv: https://arxiv.org/pdf/2403.16354
- *Pythoness:* A tool that uses LLMs to automatically generate rigorous and efficient code through natural-language descriptions and tests. Currently expanding the automatic testing framework that creates and runs unit tests, property-based tests, class constraints, and integration tests on generated code.

**The Foster Lab with Jeffrey Foster** May 2022 – May 2023
Tufts University

- Developed REST$_\pi$, a novel path-sensitive type inference system that elevates REST API documentation generation by accurately capturing the relationship between API input and application and its output.
- Analyzed the quality of REST API specs created with REST$_\pi$ implemented for Ruby built on *RDL*, an existing type-inferencing tool, against publicly used documentation software such as SwaggerHub and Postman.

**The Cowen Lab with Lenore Cowen** Jun 2021 – Sep 2021
Tufts University

- Assisted on a graduate project on using protein networks to locate causal genes for Parkinson's Disease and programmed modules that could execute an efficient graph-searching algorithm to traverse protein nodes.
- Published "Neighborhood embedding and re-ranking of disease genes with ADAGIO" with Mert Erden and Lenore Cowen and presented at ACM-BCB 2022. https://doi.org/10.1145/3535508.3545542

## WORK EXPERIENCE

**Littauer Library Student Assistant Programmer** May 2023 – Sep 2023
Harvard University

- Performed full stack development on the Judaica Division's digital collection of 8M+ records in FileMaker.
- *Front end:* Designed new web interfaces and organized a database architecture that optimized the accessibility of database navigation for people across various programming backgrounds and languages.
- *Back end:* Wrote compilation programs to better visualize collection statistics, analyze the data, and print the results into comprehensive reports.

**Teaching Assistant for Discrete Math, Cryptography, and Computation** Aug 2020 – Dec 2023
University of Massachusetts Amherst and Tufts University

- Graded and reviewed feedback on all student homework assignments and exams for classes of 160+. Led students through peer-to-peer learning in recitations, workshops, review sessions, weekly office hours, and on Piazza.
- Wrote administrative software in C++ to help lecturing faculty with organizing grades and student data.

**Intelligence Team Intern** Jul 2022 – Sep 2022
Tortoise Media

- Refined a natural-language processing algorithm to scrape public financial data from government websites and process the data into a machine learning model that could detect unusual trends in donors or amounts being spent.
- Wrote a clustering algorithm to group together donor and MP names with similar names and titles.
- Organized the company's subscriber lists and access codes in Excel in collaboration with the Partnerships team.