Kyla Levin

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EDUCATION

M.S. / Ph.D. Computer Science Expected: May 2028
University of Massachusetts Amherst
Advisor: Emery Berger
GPA: 3.96
Relevant Coursework: Computer Architecture, Information Assurance, Compilers, Secure Distributed Systems, Adv. Algorithms, Neural Networks

B.S. Computer Science and Chemical Engineering May 2023
Tufts University
GPA: 3.67
Graduated *magna cum laude*

SKILLS

Programming Languages: C++, C, Java, Python, HTML5, JavaScript, Ruby

Systems: OpenAI, Bedrock, GDB, LLDB, PDB, Docker, Eclipse, Adobe, Git, Linux OS, LaTeX

RESEARCH

Graduate Research Assistant Sep 2023 – Present
PLASMA Lab, 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. ChatDBG enables LLMs to autonomously answer complex user queries about program behavior.
  Published and won "Distinguished Artifact" at FSE 2025: https://dl.acm.org/doi/10.1145/3729355
- *Pythoness:* Currently investigating a tool that uses LLMs to automatically generate rigorous and efficient code through natural-language descriptions and tests. Expanding the automatic testing framework that creates and runs unit tests, property-based tests, class constraints, and integration tests on generated code.
  Position paper: https://arxiv.org/abs/2501.02138

Undergraduate Research Assistant May 2022 – May 2023
The Foster Lab, 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.
  Published in OOPSLA 2025: https://dl.acm.org/doi/10.1145/3763055
- 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.
- Wrote a sample REST API using Ruby on Rails and documented its API spec both manually and through an automatic OpenAPI generation software.

Laidlaw Scholar Undergraduate Research Assistant Jun – Sep 2021
The Cowen Lab, Tufts University

- *ADAGIO*: Assisted on a graduate project to develop an efficient graph-searching algorithm that can traverse protein-protein interaction networks to identify possible unidentified disease genes. Helped evaluate on known disease modules for neurological diseases such as Alzheimer's and Parkinson's to locate possible clusters of causal genes.
  Published in ACM-BCB 2022: https://doi.org/10.1145/3535508.3545542

WORK EXPERIENCE

Automated Reasoning Research Intern May – Aug 2025
Amazon Web Services

- Completed a research internship at AWS with the Automated Reasoning team under manager Mike Hicks.

Littauer Library Student Assistant Programmer May – Aug 2023
Harvard University Widener Library, Judaica Division

- Performed tech 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.

Intelligence Team Intern Jul – 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.

ACADEMIC EXPERIENCE

Teaching Assistant – Introduction to Computation Sep – Dec 2023
University of Massachusetts Amherst, Manning College of Information and Computer Sciences

- Guided students through peer-to-peer learning by leading weekly discussions and lab sessions, as well as responding to student questions and concerns both in office hours and online through Piazza and on Zoom.
- Evaluated and graded assignments, projects, and exams using established rubrics, providing detailed and constructive feedback to help students improve their understanding of machines and computation.

Academic Tutor May 2022 – May 2023
Varsity Tutors

- Provided hourly coaching in a wide variety of computer science, chemistry, math, and general education subjects.
- Created my own materials to help students from middle school to adult learners develop new programming skills with no prior experience, **improve standardized test grades, or study materials for a class.**

Teaching Assistant – Cryptography and Discrete Mathematics Aug 2020 – May 2023
Tufts University, Computer Science Dept.

- Wrote administrative programs in C++ to help lecturing faculty with organizing grades and student data.
- Graded and reviewed feedback on all student homework assignments and exams for classes of 160+.
- Answered student inquiries and provided a collaborative learning environment through office hours.