LINN ERLE KLOEFTA

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EDUCATION

GEORGIA STATE UNIVERSITY Atlanta, GA

Bachelor of Science in Computer Science (Honors), Accelerated Master's Program Expected May 2026

- GPA: 3.52/4.0, Dean's List 2022-2025
- Relevant Coursework: Data Structures, Operating Systems, Algorithms, Systems Programming, Fundamentals of Data Science, Linear Algebra, Probability & Statistics, Calculus 3

EXPERIENCE

RESEARCH ASSISTANT Atlanta, GA

Georgia State University, Dept. of Computer Science Jan. 2025 – Present

- Set up and managed a PostgreSQL database for computer science education data using custom SQL scripts for data cleaning and schema updates.
- Engineered SQL scripts for logic-based filtering and preparation of school and course datasets.
- Automated analysis and visualization of cleaned database data using Python.
- Maintained the team's GitHub repository, organizing code, Jupyter notebooks, and workflow automation scripts.

RESEARCH ASSISTANT Atlanta, GA

Georgia State University, Dept. of Computer Science Jan. 2025 – Present

- Designed and built full-stack interactive tools for teaching core computer science concepts using Dash, Cytoscape, and SQLite3.
- Developed RA-viz, a visualization engine for relational algebra: parsed tree-based queries, translated them into SQL, and rendered live results with a visual query graph.
- Engineered Lambda Engine, an interactive lambda calculus evaluator supporting beta reduction, arithmetic, and step-by-step tree traversal via node interaction.
- Implemented recursive tree-to-JSON parsers, dynamic layout generation, and UI systems for interpreting user-selected nodes and guiding reduction sequences.
- Built modular, dynamic frontends that render expression trees, query results, and metadata, with robust backend pipelines for semantic validation and execution.

TEACHING ASSISTANT Atlanta, GA

Georgia State University, Dept. of Computer Science Aug. 2024 – Dec. 2024

- Graded labs, homework, and exams for 20+ students in an undergraduate Python course.
- Reviewed and provided feedback on 500+ Python programs, from simple scripts to multi-file projects.
- Helped students understand Python concepts through code examples and explanations.

PROJECTS

RA-VIZ: Relational Algebra Processor and Visualizer | GitHub Aug. 2024 – May 2025

- Built a full-stack Dash app using Dash Cytoscape for visualizing relational algebra queries as expression trees.
- Implemented a recursive tree parser to convert user-constructed visual queries into JSON and generate SQLite-compatible SQL.
- Engineered backend logic for semantic validation, operator-specific layout rules, and live evaluation against uploaded SQLite schemas.
- Enabled interactive traversal of query trees and step-by-step evaluation of filters, column projections, and table joins.
- Designed a modular frontend that adapts layout dynamically based on operator arity and highlights intermediate results on node selection.

TECHNICAL SKILLS

- Programming Languages: Python, Java, C, SQL, HTML, CSS, Bash
- Frameworks & Tools: Flask, Git, Dash, Unix/Linux, PostGIS, Google Cloud
- Libraries: SQLite3, PLY, Pandas, Matplotlib, Seaborn, Plotly, Cytoscape, psutil