

# Atharva Kerkar

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## EDUCATION

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### Purdue University

*Bachelor of Science in Computer Science, Minor in Economics and Math*

West Lafayette, IN

Aug. 2023 – May 2027

**Relevant Coursework:** Object-Oriented Programming, Data Mine Community (R, Python, and CLI), Discrete Math, Programming in C, Linear Algebra, Data Structures & Algorithms (Java), Computer Architecture (Assembly Code), Systems Programming, and Computer Security.

## EXPERIENCE

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### Discrete Mathematics Undergraduate Teaching Assistant

*Purdue University Computer Science Department*

JAN 2025 - MAY 2025

West Lafayette, IN

- Tasked to solve newly developed homework assignments from the student's perspective and providing feedback on aspects such as difficulty, length, clarity, and wording to the instructors and homework development team.
- Hosted office hours, helping students with homework and clarifying relevant aspects of the course.

### Comparing 2D and 3D Molecular Property Prediction AI Models

*Purdue University*

MAY 2025 - AUG 2025

West Lafayette, IN

- Fellowship with the Summer Undergraduate Research Fellowship (SURF) program and Advancing Army Modernization Priorities Undergraduate Program (AAMP-UP) sponsored by the Army Research Lab (ARL).
- Export-Controlled research into comparing deep learned molecular property prediction models with a Graph Neural Network (GNN) architecture trained on molecular data — 2D SMILES strings and 3D positional data; we argue how Force Field data is the most appropriate to collect and perform inferences on, balancing accuracy and cost.
- Worked on developing a Retrieval Augmented Generation (RAG) application, making API calls to GPT4.0 with the context being a robust dataset of research papers, parsing all text and images.
- Publication to be reviewed and GitHub data will be released to show development of deep learned models in Python.

## PROJECTS

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### What's Up? Boiler Up! | *JavaScript, Python, CSS, HTML, Node.js, Geocode, Leaflet*

Sept 2023 – Present

- Developed a full-stack web application with CSS and HTML for front-end development; Python for back-end development; Node.js and JavaScript for front-end and back-end development.
- Took the RSS feed from a third-party website and used pre-existing map data to graphically map events.
- Visualized GitHub data to show collaboration.

### Autocorrect and Autocomplete (INCOMPLETE) | *Python, C, Vite, React.js, Typescript*

Aug 2024 – Present

- Developing a program that takes word inputs and provides suggestions to correct or complete the word using data structures and algorithms, web scraping databases for word suggestions.
- Learned tabulation of dynamic programming and implemented a recursive Trie data structure for autocomplete.
- Visualized GitHub data to show development.

### Potato Salad | *Python, Linux, PyTorch, Numpy, FinBERT, Vite, React.js*

Feb 2025 – Present

- Finished a project which webscraped Yahoo Finance, showing and updating information on the Stock market on a weekly basis.
- Visualized table on stocks and how the sentiment on the stock looks like with FinBERT.
- Visualized GitHub data to show collaboration

## TECHNICAL SKILLS

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**Languages:** Java, Python, C/C++, JavaScript, JSX, HTML/CSS, CLI, x86-64 Assembly, Typescript, TSX

**Frameworks:** React.js, Node.js

**Developer Tools:** Git, VS Code, IntelliJ, Eclipse, ROS2, Vite

**Libraries:** Pandas, Leaflet, Geocode, PyTorch, Numpy