

# David He

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## EDUCATION

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### Georgia Institute of Technology

*B.S. in Computer Science, GPA: 4.0*

Atlanta, GA

*Expected May 2025*

- **Concentrations:** Computer Architecture & Modeling/Simulation
- **Selected Coursework:** Data Structures & Algorithms, Computer Systems & Networking, Computer Organization, Object-Oriented Programming, Linear Algebra, Multivariable Calculus

## WORK EXPERIENCE

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### KidsTeachKids+

*Founder, Software Engineer*

Chicago, IL

*Mar 2020 – Aug 2022*

- Launched not-for-profit peer tutoring platform that has provided 100+ hours of free tutoring to local students.
- Developed a program to manage inventory of 100+ tutoring records using pygsheets.
- Automatically ported data from Google Sheets to generate PDFs of official volunteer hours using Python.
- Built responsive web app as proof-of-concept for complete system automation using React, Node.js, & Express.

### LittleChineseChannel

*Software Engineering Intern*

Chicago, IL

*Jun 2020 – Sep 2020*

- Developed database-driven mobile-friendly website supporting 300+ active users using PHP & MySQL.
- Designed mobile-friendly user-interface for students to learn and practice Chinese using Bootstrap, JS, & JQuery.
- Designed relational database schema to model students, teachers, classrooms, transactions, etc. using MySQL.
- Implemented user authentication and session management in PHP & MySQL.
- Created a program to automatically label 10,000+ images with UUIDs using Java.

## ACADEMIA

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### Georgia Institute of Technology

*Undergraduate Researcher - Machine Reading Lab*

Atlanta, GA

*Dec 2022 - Present*

- Researched in-context learning for question answering, coreference resolution, and other downstream tasks.
- Investigated effects of demonstration-to-input similarity on performance of large language models.

### Georgia Institute of Technology

*Team Member - Robot Collective*

Atlanta, GA

*Aug 2022 – Dec 2022*

- Ported Docker image to a new Linux environment and troubleshooted deprecated dependencies.
- Configured network and MQTT broker for robot-server communication via pub/sub service.

## PROJECTS

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### Breast Cancer Classifier | *Python, Numpy, Pandas, Scikit-learn*

- Implemented soft-margin support vector machine and mini-batch stochastic gradient descent in vanilla Python.
- Achieved 99% accuracy, 95% recall, and 95% precision in identifying breast cancer from diagnostic data.

### Yahoo Finance Web Scraper | *Python, Scrapy*

- Built a web scraper to extract financial data from Yahoo Finance for 500+ stocks into spreadsheet for Wharton Global High School Investment Competition.

### Internet Bandwidth Estimation | *Python, Matplotlib*

- Simulated Monte Carlo experiment to model and estimate internet bandwidth needs of the average American household for Mathworks M3 Challenge.
- Displayed results of simulation in histograms for presentation in research report using Matplotlib.

## TECHNICAL SKILLS

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**Languages:** Java, Python, C, C++, Javascript, MySQL, PHP, HTML, CSS

**Technologies:** OOP, REST, NumPy, PyTorch, AJAX, React, Node.js, Express, Docker, Bootstrap, JQuery, Git