David He
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EDUCATION

Georgia Institute of Technology   Atlanta, GA
B.S. in Computer Science, GPA: 4.0   *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

Company 1   Chicago, IL
Founder, Software Engineer   *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.

Company 2   Chicago, IL
Software Engineering Intern   *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

Georgia Institute of Technology   Atlanta, GA
Undergraduate Researcher - Machine Reading Lab   *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   Atlanta, GA
Team Member - Robot Collective   *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

Support Vector Machine | *Python, Numpy, Pandas, Scikit-learn*
- Implemented soft-margin SVM and mini-batch stochastic gradient descent in vanilla Python.
- Achieved 99% accuracy, 95% recall, and 95% precision in identifying breast cancer from diagnostic data.

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.

Monte Carlo Simulation | *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

Languages: Java, Python, C, C++, Javascript, MySQL, PHP, HTML, CSS
Technologies: OOP, REST, NumPy, PyTorch, AJAX, React, Node.js, Express, Docker, Bootstrap, JQuery, Git