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# David He

https://david-he.me
US Citizen

## 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 Organization, Object-Oriented Programming, Linear Algebra, Multivariable Calculus

## WORK EXPERIENCE

**KidsTeachKids+** — Naperville, 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 automatically 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 and Express

**LittleChineseChannel** — Naperville, IL
*Software Engineering Intern* — *Jun 2020 – Sep 2020*
- Planned and 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*
- Experimenting with large language models like GPT-3 for few-shot coreference resolution
- Researching applications of in-context meta-learning to prompt engineering for question answering tasks

**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

## SKILLS

**Languages**: Java, Python, C, C++, Javascript, MySQL, PHP, HTML, CSS
**Technologies**: OOP, REST, AJAX, React, Node.js, Express, PyTorch, Docker, Bootstrap, JQuery, Less, Git
**Hobbies**: Guitar, Violin, Cooking, Running, Reading, Poker