

# David Gu

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## EDUCATION

- **Georgia Institute of Technology** May 2028  
*Bachelor of Computer Science; Threads: Cybersecurity and Systems & Architecture* Atlanta, Georgia
- **Relevant Coursework** *Object Oriented Programming in Java, Discrete Math, Honors Linear Algebra*

## SKILLS

- **Programming Languages:** Proficient in C++, Java, Python; Familiar with C, Go, HTML, JavaScript
- **Database Systems:** Familiar with MySQL, PostgreSQL
- **Specialized Area:** Binary exploitation, reverse engineering, cryptography
- **Other Tools & Technologies:** VMware, Ghidra, Wireshark, Burp, GDB, pwn

## PROJECTS

- **Cyberpatriot Script: Auto resolve security issues for Ubuntu machines** September 2020 - May 2024  
*Tools: Python, Bash, web scraping | For Cyberpatriot competition* [\[G\]](#)
  - Developed bash/python scripts to secure Ubuntu machines for Cyberpatriot
  - Automated securing user credentials, modifying file permissions, locating malicious files, updates, fixing config files, securing root; saving 60+ minutes of manual securing
- **Stream screen through localhost** June 2024 - July 2024  
*Tools: Python (Flask, Pyautogui), HTML, Javascript (jquery), CSS | Personal project* [\[G\]](#)
  - Designed and implemented a flask-based application for real-time screen streaming over a local web server, enabling browser-based access
- **2D Physics Simulator for Simple Objects** May 2024  
*Tools: C++, GLFW, GLEW, GLM | School project* [\[G\]](#)
  - Created 2D physics engine in a team of 5 for simple objects such as squares and triangles
  - Led the collision detection module using dynamic volume bounding hierarchies

## HONORS AND AWARDS

- **PicoCTF2024: Placed in top 2.5% of 1500 high school teams** March 2024  
*PicoCTF, Carnegie Mellon University*
  - Collaborative CTF where teams of up to five tackle challenges in binary exploitation, reverse engineering, web exploitation, cryptography, forensics, and general cybersecurity skills.
  - Led efforts in binary exploitation, reverse engineering, and cryptography; solved the 2 hardest cryptography problems: requiring polynomial interpolation, galois fields, chosen plaintext attack on RSA
- **AMC12 Distinction** September 2022  
*AMC12, American Mathematics Competitions*
  - Global math competition where over 35000 competitors test to qualify for olympiad math competitions
  - Distinction is given to the top 5% of scorers and recognizes qualifications to take the AIME
- **USACO Gold Contestant** February 2022 - May 2024  
*USACO, United States of America Computing Olympiad*
  - Second highest achievable title in USACO and 800 of 10000 contestants are selected to compete in the USACO gold division or higher
  - Utilized advanced algorithms, including dijkstra's shortest path, disjoint set union, and dynamic programming, to solve complex algorithmic challenges.

## EXTRACURRICULARS

- **Greyhat** September 2024 - Present  
*Club that teaches cybersecurity skills and participates in CTF and cybersecurity competitions*
- **Solar Racing** September 2024 - Present  
*Club that designs solar powered cars and races them in competitions including FSGP*
- **gt:// webdev** September 2024 - Present  
*Club that designs websites to help Georgia Tech alumni, faculty, and external communities*

## ADDITIONAL INFORMATION

**Languages:** Chinese (working proficiency)

**Current project(s) in progress:** AI/ML with cybersecurity techniques, self-spreading malware

**Interests:** V5 in bouldering, peak diamond 1 in TFT, fantasy books, badminton, reading cybersecurity trends