

<h1>Jiuzhou Hao</h1>	
<h2>Personal Info</h2>	
Email	johnhaoallwood@gmail.com
Phone	+1 647-613-9983
Github	https://github.com/PacificViking
<h2>Education</h2>	
Pursuing undergraduate studies in Computer Engineering at the University of Toronto, St George Campus. Expected to graduate 2027.	
<h2>Skills</h2>	
Webpage/Software/Competitive Programming - experience with many hobby projects	
System Administration - hosts proxy and self-made chat server, familiar with Linux and the SQL language	
Problem Solver - strong problem finding / debugging skills, enjoys automating mundane tasks rather than performing them	
Safety Mindset - sanitizes inputs and control flows for every project	
Non-Dependent - capable of finding and using information available to me using technology	
Technologically Adept - frequently uses tools such as Photoshop, Blender, and Stable Diffusion	
<h2>Languages</h2>	
Fluent in English and Chinese	
<h2>Hobbies</h2>	
<ul style="list-style-type: none">• Programming• Philosophy and economics• Cutting edge open source• Technology	
<h2>Misc. Participation</h2>	
<ul style="list-style-type: none">• Certificate Cutoff: Canadian Computing Competition, Senior• Certificate Cutoff: Waterloo CEMC Euclid Competition• Advent of Code 2021-2023• Hack the Valley 8	

Hello, I am Jiuzhou Hao, a programmer and tech enthusiast pursuing undergraduate studies for Computer Engineering. I look forwards to solving both bugs and real-life problems.

Projects

A personal censorship circumvention proxy

Challenges

- Creative idea generation inspired by academic research on firewall mechanisms and alternate circumvention proxies (shadowsocks)
- Reading and implementing network protocols to maintain package header integrity thus ensuring delivery
- Optimizing proxy throughput by interfacing with low level systems and multi-level caching
- Remote server administration using AWS: ssh, neovim, linux firewalls, configuration files

Achievements

- Relatively fast (1.6MB/s), stable network traffic from China to firewalled domains/addresses compared to other proxies (which require avid disconnection to avoid suspicion flagging)
- Consistently used by me and family for over a year.

Multi-peer airdrop-like file transfer

Challenges

- Communication between MacOS "Airdrop" API (in Swift) and Python (my language of choice). Solved by base64 command line interface.
- "Airdrop" API documented poorly: lack of relevant information (example code had to be translated from Objective-C)
- Major UI/UX considerations: application-like feel despite being an webapp, portability/distribution under MacOS security
- Multipeer asynchronous communication: syncing peer information after disconnection, nonblocking file IO, abstracted communication protocols with peers and API command line interface

Achievements

- Was not widely adopted, but was seldom used in my classes

Volunteer History

2020-11 -
2021-03;

Head of Sounds and Lights

We Will Rock You (Musical) / FAME (Musical)

2021-11 -
2022-03

Key Qualifications and Responsibilities

- Learning stage light positioning and control using manual
- Organizing microphone distribution to actors
- Working with music and stage director to understand needs

Key Achievements

- Modified stage lights at calculated angles for full, omnidirectional lighting for the musical
- Multiple creative ideas, including using TTS for a robotic announcer, making dark blue scenes more visible using specks of bright light
- Found and used undiscovered features in the control panel, including fixture groups, automatic shapes, and keyframing

2019-11 -
2023-03

Writer/Web Developer/Server Management

Unofficial School Blog

Key Qualifications and Responsibilities

- Developing and maintaining an unofficial online blog for my high school
- Writing entertaining content for the blog. This involved programming skills for interactively entertaining webpages, and image editing skills for content creation

Key Achievements

- Nothing really. Might've prevented a couple mental breakdowns during COVID (probably not) but I'll never know

Projects

Hobby Projects

- A fairy chess engine
- A few digital games with python/pygame
- Automatic renamer and pdf-compiler for documents taken with photo booth on MacOS during e-learning
- Imageboard crawler
- Decision tree based wordle solver
- Data denoising preprocessor and trend finder (for noisy sinusoidal data with exponentially decaying amplitude)
- Using/configuring Linux (NixOS) as a daily driver

Contributed To

- Adding, updating NixOS packages
- Hyprprop: xprop for Hyprland
- Budgeting app for Hackathon
- GuessTheLocation: location guessing game