

# Adam Guo

*Mathematics and computer science major  
Pomona College ('22)*

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Hi! I'm Adam. I'm passionate about math and computers, particularly how the two come together to produce fascinating and meaningful results for the real world. To that end, I'm interested in all aspects of computational mathematics, including machine learning, scientific and high-performance computing, and statistical analysis.

I'm also passionate about Linux and computer infrastructure. I love tinkering with Linux on my personal computer and home server, and participating in [Linux and server](#) forums online. As a software developer with skills in Linux system maintenance, I bring interest and familiarity with the entire software engineering and computing stack.

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## Skills

**Web development:** JavaScript/Node.js, Python, Ruby on Rails

**Computational science:** MATLAB, Julia, WolframScript

**DevOps:** Docker, Vagrant, Capistrano

**Linux:** Linux, BASH, Git

**Other languages:** Java, Android

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## Work Experience

### **Research Assistant** *Claremont Graduate University Institute of Mathematical Sciences Summer 2019*

Worked with Claremont Graduate University professor Hrushikesh Mhaskar to investigate methods of computing inverse Laplace transforms of linear combinations of point masses, with applications to machine learning. Preparing to be published. Implemented algorithms such as Gauss quadrature formula computations and discrete Fourier transforms in Julia, Python, MATLAB, and WolframScript based on significant relevant papers.

[github.com/adamguos/surp-2019](https://github.com/adamguos/surp-2019)

### **Web Developer** *Associated Students of Pomona College 2018 to present*

Developed and maintained student government website in Ruby on Rails, both front-end and back-end. Used deployment/development technologies including Vagrant and Capistrano.

Helped rebuild version 2 of the website from the ground up.

[pomonastudents.org](https://pomonastudents.org)

### **Developer Intern** *Coachbase Summer 2016*

Maintained and added new features to company website in Node.js, such as video playback and user payment. Automated company backend processes such as marketing emails and client invoices.

[coachbase.com](https://coachbase.com)

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## Projects

### **Self-hosted Linux server**

[acousticwheels.duckdns.org](https://acousticwheels.duckdns.org)

Arch Linux-based home server, hosting remote backup, media, and scientific computation services for personal use. Services containerised and managed with Docker.

Runs 24/7 on low-power PC hardware.

### **School timetable converter**

[cis-timetable-csv.herokuapp.com](https://cis-timetable-csv.herokuapp.com)

Node.js-based web app used by all secondary students and teachers at Chinese International School to import their plaintext class schedules into Google Calendar.

Python music player

[github.com/adamguos/dd-music-player](https://github.com/adamguos/dd-music-player)

Music player written in Python, capable of playing both local files and Spotify music. Indexes files using the MongoDB database software.

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## *Education*

**Pomona College** *Mathematics and Computer Science Major 2018 to 2022*

Courses taken include Vector Calculus, Probability, Discrete Math and Functional Programming.

Taking Data Structures, Differential Equations, and Statistical Linear Modeling in Spring 2020.

TA for CS department.

**Chinese International School Hong Kong** *International Baccalaureate 2008 to 2018*

Nominated and selected as Head Boy of class. Won several awards for academic achievement throughout high school.

Earned Bilingual Diploma for English and Chinese.