# Tingmao Wang

(Jul 2020) First year Computer Science undergraduate at AUCL



#### **EDUCATION**

• BSc Computer Science — University College London — 2019-2022

Have consistently achieved high grades. Notable coursework (able to provide code upon request):

- A journey planner for the → London rail network (tube & others) entirely in C.
  - \* Shows paths with least station, least interchange or paths that avoid certain fare zones.
- A Tetris bot in Python which can reliably keep itself alive long enough to reach a 1000 blocks limit, and scored 3rd place in the 140 persons class.
- Designed and wrote a system specification for a hypothetical good delivery service for vulnerable people during COVID, matching requests with volunteers with an efficient algorithm.
- A-Level (Shenzhen, China) Nanshan Chinese International College 2017-2019
  Math, Further Math, Physics and Economics A\*A\*A\*A\*

### **SKILLS**

- Languages: Rust, JavaScript/TypeScript, Python, Go, Java/Kotlin, C++; TFX.
- Linux (scripting, programming, server administration and some understanding of the inner-workings), Git, Docker; Web & Android development.
- · Security (web & native) & Basic cryptography. Blog article on certificate transparency

#### PERSONAL PROJECTS

- status.maowtm.org ( ): simple server monitoring with web push notification Aug-Sept 2019.
  - Backend built with Rust, using the Rocket framework and SQLite database.
  - Frontend built with Svelte.
- paper.sc ( ): CIE past paper quick finder & search engine 2016-2019
  - Average of ~9000 daily searches over 365 days (2019-2020); recommended by a number of teachers.
  - Backend built with Node.js, using MongoDB and Elasticsearch.
  - Frontend built with React, using Webpack for bundling. Acts as a PWA with ServiceWorker.
  - Made a PDF viewer: using PDF.js for rendering, wrote own input handling (touch screen & Macbook trackpad pinch-to-zoom, inertia scrolling, etc.).
  - Parses the document to find matching question numbers and hence create hyperlinks in the PDF viewer between question paper and mark scheme for the same question.
  - Includes extensive unit tests, and builds on Travis CI.
- ts-player ( ): a terminal recorder that produces files capable of efficient random access Jan 2019
  - Written in Go, used on Linux.
  - Uses protobuf for storage format and zstd for compression.
  - Uses the Linux termios API to execute process in monitored PTY, and a Golang binding of libvterm to parse terminal escape sequences (to get the color and position of characters right).
- go-ecbpass ( ): a deterministic, stateless pseudo-random password generator Oct 2018
  - Uses scrypt to derive passwords for each website based on its domain and the user's master password.

# COMPETITION

- Facebook Hack-a-project 29 Feb 2020
  - Team of 4 people won second-place (against 8 other teams)
  - Designed a baisc React & Nodejs App (♠) for bringing people who want to watch the same movie together.

## **OTHER INTERESTS**

- Able to do some basic 3D modelling with Blender (some works I've done); also interested in animation and design.
- · Studying university-level mathematics on my own: Analysis, Linear Algebra, Differential Equations.