Tingmao Wang

(Jul 2020) First year Computer Science undergraduate at UCL

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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++; TEX.
- Web development: React/Svelte, Nodejs, Webpack. Plain CSS & SCSS.
- Linux (scripting, programming, server administration and some understanding of the inner-workings), Git, Docker. Some basic experience with OpenGL and Android native development.
- Security (web & native) & Basic cryptography. Interactive 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** (): Past paper finder & search engine for a high school exam board – 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.