Tingmao Wang

(Oct 2021) Third year Computer Science undergraduate at UCL

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EDUCATION

- **BSc Computer Science** – University College London – 2019-2022

  Second-year grade average: 82.3%

  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 person 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. Received a top submission award.
  - Led a 3-person team on implementing a bash-like shell in Java, with piping, substitution, glob expansion, and 97% test coverage. Built an online sandbox for the shell with Docker, Rust and Xterm.js (not part of the coursework).

- **A-Level** – (Shenzhen, China) Nanshan Chinese International College – 2017-2019

  Math, Further Math, Physics and Economics – A*A*A*A*

WORK EXPERIENCE

- **Technology Intern** – Marshall Wace LLP – Jul-Aug 2021
  - Designed and built a dashboard for developers to search for and check the build and deploy status of their projects.
  - Used React (front-end), Python/fastapi (backend) and Redisgraph (a graph database based on Redis which supports Cypher). Used APIs to read information from different services including Kubernetes. Used Prometheus to export metrics which helped debug performance issues.
  - Worked in a team with 2 other interns. Delivered a project presentation and demo to the whole of the Technology division, and incorporated developer feedback. Wrote documentation for extending the system to add other service integrations.

- Software Developer $\xrightarrow{\text{Jun 2021}}$ **Lead Developer** – CORE Data Systems Ltd – Jul 2020-. . .-present (part-time)
  - Educational game development for GCSE Physics/Chemistry/Biology.
  - Familiarized with and worked on various aspect of an existing PHP + React project of moderate size, ensuring cross-browser compatibility and implementing additional features.
  - Created a payment form which integrates with PayPal to replace the existing manual invoicing.
  - Helped onboard new developers and reviewed their code. Promoted officially to Lead Developer.

COMPETITION

- HIRED – UK Virtual Coding Challenge – 7th Jul 2020
  - Won first place in an algorithm contest of 180 people.
  - Rewarded with £1,000 Tesco (sponsor) gift card.

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

PERSONAL PROJECTS

- **Bellclone** (): a re-make of the old Winterbells game–a simple 2D game about jumping – Sept 2021
  - Built with Rust (wasm) and OpenGL. Uses an entity-component-system architecture. No game engine.
  - Supports simple multiplayer which allows seeing what other players are doing. Uses flatbuffers for fast serialization and WebSocket for communication.
  - Client: 120fps throughout on Chrome. Server: less than 2MiB memory usage with a couple of players.

- **Leafvote** (): A real-time live voting solution built with React and NodeJS for my high school – Aug 2018

PERSONAL BLOG

- **Interactive article on Certificate Transparency** – Aug 2020