Tingmao Wang

Graduate Software Engineer at Microsoft UK

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micromaomao
Blog

EDUCATION

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

  First Class Honours: final average 82.84%. Entered Dean's List for "outstanding academic performance".

  - Built 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.
  - Worked with Unity and the Alexa voice API as part of an industry project.
  - Worked on and help released a container image build system Modus as my final year dissertation.

WORK EXPERIENCE

- **Software Engineer** – Microsoft – Sept 2022–current
- **Lead Developer** – CORE Data Systems – Jul 2020–. . .–Sept 2022 (part-time)
  - Overtook the development of a suite of games for GCSE sciences, maintaining a PHP + React codebase.
  - Created PayPal integration to replace the existing manual invoicing.
  - Helped interview and onboard new developers and reviewed their code. Promoted officially to Lead Developer.
  - Took over responsibilities from a leaving lead developer to manage the Google Cloud-based infrastructure, utilising App and Compute Engine, Storage, Cloud SQL and Datastore, and other products.
  - Saved £60 per month in cloud cost by converting a VM-based reverse proxy to use Cloudflare Workers instead.
- **Technology Intern** – Marshall Wace – 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.

COMPETITION

- Showcode + ARM (sponsor) – VarsityCode 2021/22 – 4th Nov 2021
  - Won second place in an algorithm contest of 300+ people, rewarded with £200 Amazon gift card.
- HIRED + Tesco (sponsor) – UK Virtual Coding Challenge – 7th Jul 2020
  - Won first place in an algorithm contest of 180 people, rewarded with £1,000 Tesco gift card.

PUBLICATIONS

- *C. Tomy, T. Wang, E. T. Barr, S. Mechtaev*
  "**Modus: A Datalog Dialect for Building Container Images**", ESEC/FSE, Sep. 2022

PERSONAL PROJECTS

- **books.maowtm.org** ( ) – A 3D virtual bookshelf built with Blender and Three.JS – Jun 2022
- **Bellclone** ( ): A re-make of the old Winterbells game built with Rust (wasm) and OpenGL – Sept 2021
- **Leafvote** ( ): A real-time live voting solution built with React and NodeJS for my high school – Aug 2018
  - Uses MongoDB, WebSocket for lower latency, and LaTeX for voting ticket generation.
  - Successfully handled 300+ voters at once.
- **go-ecbpass** ( ): A stateless, deterministic password manager built in Go – Oct 2018
- **paper.sc** ( ): A past paper search engine built with React, NodeJS and Elasticsearch – 2016–2019
  - Average of ~9000 daily searches over 365 days (2019-2020); recommended by a number of teachers.
  - Custom PDF viewer with automatic cross-reference to solution sheets built with PDF.js.