

# Hao-Yen Tang

07440 777121 | [userhata45@gmail.com](mailto:userhata45@gmail.com) | [LinkedIn](#) | [GitHub](#) | [Website](#)

I am a fourth-year computer science student seeking opportunities in software engineering and web development, with additional interest in AI technologies.

## EDUCATION

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### University of Warwick, MEng Computer Science

*Predicted 1st class*

Coventry, UK

*Sept. 2022 – Jul. 2026*

### Pate's Grammar School, A-Levels

*Computer Science (A), Mathematics (A), History (A)*

Cheltenham, UK

*Sept. 2020 – Jun. 2022*

## EXPERIENCE

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### University of Warwick

*TradeTalk Front-End Developer*

Coventry, UK

*Jan. 2024 – Mar. 2024*

- Developed a web application as part of a group project which summarises and recommends financial news articles using LSA text summarisation and statistical methods such as TF-IDF.
- Primarily responsible for creating the website's front-end with Next.js and Tailwind CSS. Used NPM packages such as Chart.js and React Toastify to improve user experience.
- Supervised and contributed query functions to the SQLAlchemy database.
- Implemented CI/CD with GitHub Actions workflows.
- Communicated with team members weekly to discuss progress and quality of work, as well as to prioritise the most necessary features.
- Technologies used: Next.js, React, CSS, JavaScript, TypeScript, Python, Flask, SQL, Git

## PROJECTS

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### Deepfake Detection Interface | *Python*

- A Python program to aid detection of GAN- and DM-generated faces using the tkinter library.
- Builds upon existing research by interfacing with a model designed by Ricker et al. (2024) to display detection accuracy of a given set of real/fake images.
- Implements a technique proposed by Marra et al. (2018) to potentially detect DM-generated images in an intuitive manner by extracting the photo-response non-uniformity (PRNU) pattern from a set of fake images.

### Minimax Connect-N | *Python*

- A Python program for playing Connect-N, a variant of Connect-4 with a custom size board.
- Players can be either manual or AI, using minimax to select the best value.
- Improvements to efficiency such as transposition tables, alpha-beta pruning and a depth-based search method can be toggled.

### LLVM Compiler | *C++*

- A compiler written in C++ using the LLVM framework that parses and compiles a subset of C called Mini-C.
- Consists of a recursive descent LL(k) parser, intermediate representation generator and detailed error handler.
- Helped develop object-oriented programming skills and became proficient in C++ concepts such as unique pointers and virtual functions.

## LEADERSHIP

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### University of Warwick

*Warwick Student Cinema Tech Team*

Coventry, UK

*Nov. 2023 – Present*

- Responsible for the upkeep of the student cinema society's website and development of a new website using React.
- Provided numerous contributions to an upcoming new student cinema website developed in Next.js.

## TECHNICAL SKILLS

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**Languages:** Python, Java, SQL (Postgres), JavaScript, C, C++

**Frameworks:** Next.js, Flask, Node.js