

TIAN YAO

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TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, Java, C, Bash, HTML, CSS/TailwindCSS

Frameworks/Libraries: React.js, Next.js, Express.js, Node.js, Django, Flask, Scikit-Learn, NumPy, Pandas

Databases/Tools: MongoDB, PostgreSQL, Docker, AWS, Heroku, Linux, Postman, Git

EXPERIENCE

Machine Learning Developer

Sept. 2023 – Present

WAT.ai Design Team

Waterloo, ON

- Built **LLM** applications using LangChain, Hugging Face/OpenAI models, and prompt-engineering techniques
- Implemented and compared the performance of **classical, ensemble, and boosting ML models** on **400,000** cyberattack datapoints for integration with **IoT devices**
- Achieved **93%** accuracy with KNN on 34 classes after pre-processing and feature engineering
- Visualized model performance using confusion matrices and graphs

Front-End Developer Intern

June 2023 – August 2023

A&L Canada Laboratories

London, ON

- Worked on a **React.js/Next.js** frontend using **TypeScript** and CSS/TailwindCSS
- Implemented language translation functionality using Next.js i18n routing and JSON files, enabling **thousands of users** to access the website in English and Chinese
- Built React.js components that interact with **REST** APIs using axios

Math Instructor

Jan. 2021 – June 2023

Kumon

London, ON

- Tutored **100+ students** in math subjects including algebra, calculus, and discrete math
- Accumulated **800+ hours** working both in-person and online
- Gave feedback to parents about student progress
- Marked and packaged student homework

PROJECTS

Video Streaming Studio | JavaScript, React.js, Express.js, MongoDB, AWS, TailwindCSS

- Developed a **React.js/Express.js** app to watch and upload videos
- Utilized **Amazon S3** for secure video storage and **Amazon CloudFront CDN** to reduce latency
- Used **Mongoose** for querying video metadata on **MongoDB** and **AWS SDK** to interact with S3
- Incorporated user authentication and authorization using JWTs, cookies, MongoDB
- Employed **React Context** for state management and encrypted data using Bcrypt and Crypto

Doctor-Patient Dashboard | JavaScript, React.js, Express.js, PostgreSQL, AWS, Docker, FastAPI, CSS

- Developed a disease prediction and treatment app, performing user auth with **PostgreSQL**, JWT, and cookies
- Deployed a prediction Logistic Regression API using **AWS Lambda**, **API Gateway**, **Docker**, and FastAPI
- Utilized **Express.js** REST endpoints to interact with database, prediction API, and **React.js** frontend
- Performed **JEST** tests for the authentication and header React.js components

NBA Stats & News | TypeScript, React.js, Next.js, MongoDB, Python, CSS

- Displays statistics and interactive charts using Chart.js for **1000+** players stored in **MongoDB** database
- Utilized **Next.js API routes** to construct **REST** endpoints that interact with database and third-party APIs
- Integrated **server-side rendering** using `getServerSideProps`
- Incorporated Credentials, Google, and Github user authentication using **NextAuth**, MongoDB, and sessions

LLM Book Recommender | Python, LangChain, Streamlit, Hugging Face

- Built a **RAG** search engine using **LangChain**, Hugging Face all-MiniLM-L6-v2 model, and Streamlit
- Web-scraped Goodreads book data using requests and BeautifulSoup and stored it as **vector embeddings**
- Employed FAISS similarity search to compare user prompts to vector embeddings

EDUCATION

University of Waterloo

Sept. 2023 – Present

Bachelor of Computer Science, Honours Co-op

Waterloo, ON