Wong Yen Hong
https://wyhong3103.tech/
Email : wyhong3103@gmail.com

Education

Multimedia University — Cyberjaya, Malaysia
- *Bachelor of Computer Science; CGPA: 4.00* — *Nov. 2022 – Present*
  Foundation in Information Technology; CGPA: 3.94 — *Jul. 2021 – Sep. 2022*

Experience

- **Rodeo** — Remote
  Software Engineer - Part Time — *Oct. 2023 – Apr. 2024*
  - Designed and implemented the API and the website of Rodeo's side project with the MERN stack.
  - Implemented role-based authentication to protect access to the endpoints based on the users' roles.
  - Implemented a chat service using Socket.IO to allow communication between users.
  - Integrated Google Cloud Storage as a bucket to store files uploaded by users.
  - Integrated SenangPay payment gateway to allow transactions on the website.
  - **Tech Stack**: React.js, Redux, Chakra-UI, Express.js, MongoDB, Google Cloud, JavaScript, HTML, CSS, Git

- **CodeNection 2023** — Cyberjaya, Malaysia
  Head of Competition Division — *Sep. 2023 – Dec. 2023*
  - Led a team of 5 members to create over 20 algorithmic problems for one of the largest competitive programming events for university students in Malaysia in 2023.
  - Developed robust test cases using testlib.h for each problem shortlisted in the problem set.
  - Composed problems and editorials using LaTeX on Overleaf.
  - Conducted 2 workshops to prepare over 200 participants for the upcoming rounds.

Projects

- **What If I Never Brick**
  - What If I Never Brick is a web application that can compute the optimal rating of a user on Codeforces.
  - It currently has more than 400 upvotes on Codeforces, making it one of the most highly upvoted web applications on Codeforces.
  - Implemented a greedy algorithm along with the ELO rating algorithms to compute the optimal rating.
  - **Tech Stack**: React.js, Redux, JavaScript, HTML, CSS, Git
- **Sudoku Mobile**
  - A sudoku mobile app with sudoku image recognition and sudoku solver.
  - Implemented an algorithm based on contours that extracts the sudoku puzzle using OpenCV.
  - Implemented a CNN based on the LeNet-5 architecture to recognize handwritten digits, achieving 99.82% accuracy on the MNIST dataset.
  - Containerized and deployed the sudoku recognition API using Docker and AWS ECS & ECR.
  - Implemented a CI/CD pipeline to enable fast-paced development for the API.
  - Designed and implemented a backtracking sudoku solver algorithm.
  - Designed and Implemented a user-friendly mobile app using React Native.
  - **Tech Stack**: React Native, OpenCV, PyTorch, Flask, Pytest, GitHub Actions, AWS ECS & ECR, Docker, TypeScript, Python
- **Snake Game AI**
  - A snake game agent that was trained using Reinforcement Learning with Deep Q Network.
  - The agent was able to perform reasonably well just after 30 minutes of training.
  - **Tech Stack**: PyTorch, Python
- **Neural Network From Scratch**
  - A neural network with a fully connected layer and auto-backpropagation, implemented from scratch.
  - **Tech Stack**: Python, NumPy

Honors & awards

- **Candidate Master on Codeforces**: I have achieved the rank of Candidate Master on Codeforces, placing me among the top 4% of competitive programmers on the website.
- **Monash Coding League 2024 Semester 1 - Champion**: MCL is a competitive programming competition held by Monash University's School of IT for all university students across Malaysia.
- **Monash Coding League 2023 Semester 1 & 2 - Champion**: MCL is a competitive programming competition held by Monash University's School of IT for all university students across Malaysia.
- **Programming League National 2023 - 2nd Runner Up**: PLN is an annual competitive programming competition at Universiti Malaya for all university students across Malaysia.
- **CodeNection 2022 - 1st Runner Up**: CodeNection is an annual competitive programming competition by IT Society MMU for all university students across Malaysia.

Technical Skills

- **Languages**: C++, JavaScript, TypeScript, Python, HTML, CSS, Java
- **Web Frameworks**: React.js, Next.js, React Native, Chakra-UI, Node.js, Express.js, Nest.js, Socket.IO
- **ML Frameworks**: TensorFlow, PyTorch
- **Database**: PostgreSQL, MongoDB
- **Cloud**: AWS, Docker, GitHub, GitHub Actions
- **Version Control**: Git