

Ernest Tan

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EDUCATION

National University of Singapore

Current

- Bachelor of Computing in Computer Science (with Honours)

St. Joseph's Institution

Graduated

- International Baccalaureate: 43/45

EXPERIENCE

Software Engineer Intern

Nov 2023 – Feb 2024

Singapore Press Holdings | Typescript, CSS, HTML, Jest, React

- Developed UI/UX for E-Paper 2.0, utilized by 40+ publications, as a member of the platform team.
- Collaborated on internal admin dashboard setup using Backstage.
- Wrote multiple unit tests with Jest to identify issues pre-production.

Deputy Operations Officer (NSF)

Jan 2023 – Nov 2023

Singapore Armed Forces | Data Visualisation, Leadership, Communication, Collaboration

- Automated tracking of training results for 400 soldiers with a Power BI dashboard, boosting planning efficiency.
- Coordinated Battalion's monthly meetings as Secretary, managing presentations and minutes for effective communication.
- Led high-risk activities, including formation-wide outfield exercises, demonstrating leadership and risk management skills.

PROJECTS

TerrorViz | *Neo4J, Langchain, OpenAI, Spacy*

June 2024

- Built a knowledge graph and retrieval system for extracting insights from terror-related articles.
- Implemented coreference resolution, entity/relationship disambiguation, and integrated entities.
- Designed a Multi-agent LLM for real-time decision-making, delivering actionable intelligence to security professionals.

MindScribe | *Nextjs, Flask, Supabase, Docker, Google Cloud Platform*

May 2024

- Orchestrated team's efforts as project lead for a hackathon POC.
- Led development for an AI Journal web app, combining Flask and React for efficient functionality.
- Enhanced user insights with RAG preprocessing on OpenAI's LLM for sentiment analysis.
- Ensured secure, real-time database access using Supabase, improving scalability and security.

NOTABLE AWARDS

SplashAwards 2023 (1st) | *Javascript, React Native, OpenAI, Google Map API*

Oct 2023

- Won SCS Splash Awards 2023 with HeritageHunt, a React Native app blending Pokémon GO-style gameplay, OpenAI LLM, Google Maps API, and image recognition for interactive city exploration.
- Focused on inclusivity and cultural preservation while leveraging generative AI and Cybersecurity principles to ensure data privacy.

CloudHacks 2023 (1st) | *Javascript, React, OpenAI, Amazon Polly*

Aug 2023

- Secured victory at Cloudhacks 2023 with Emosense, utilizing OpenAI LLM and Amazon Polly to transform lengthy articles into bite-sized podcasts for enhanced accessibility and convenience.
- Created a web app showcasing proof of concept (POC) using React and Chakra UI, demonstrating technical proficiency in frontend development.

TECHNICAL SKILLS

- **Languages:** CSS, HTML, JavaScript, TypeScript, Python, SQL
- **Frameworks:** React, React Native, Nextjs, Node.js
- **Developer Tools:** Git, Docker, AWS, Google Cloud Platform, Microsoft Azure, Firebase, Supabase, Backstage
- **Libraries:** Tailwind, Storybook, pandas, NumPy, Matplotlib, Scikit-Learn, TensorFlow, PyTorch, Neo4j, Langchain
- **Certifications:** AWS Solution Architect (SAA-03), Machine Learning Specialisation

OTHER HACKATHONS

- NUS Lifehack 2024 (Finalist)** Jun 2024
- Created Terroviz (see Projects above)
 - Only Pre-U team that made it to finals
- NUS GroundZero 2024 (Finalist)** May 2024
- Create MindScribe (see Projects above)
 - Only Pre-U team that made it to finals
- MindfulHacks 2024 (Finalist)** Oct 2023
- Hackathon aimed to promote mental wellness
- SUTD What The Hacks 2023 (1st)** Aug 2023
- Created Emosense - an application that helps individuals suffering from Alexithymia make sense of sentences.

MISCELLANEOUS INFORMATION

- Cloudhacks 2024 Organiser** June 2024
- Operations Lead
- Freelance Web Developer** Nov 2023 - Present
- Make website for clients who are typically individuals or SMEs
- MINDS MYG Volunteer** Jan 2023 - Present
- Weekly sessions to assist Individuals with Intellectual Disability
- Freelance Tutor** Jan 2022 - Dec 2023
- Tutored Chemistry and Math for IB and O-Levels
- Sword of Merit Recipient** Nov 2022
- Awarded to the top 10% of the cohort in Officer Cadet School
- BMTC Best Company Recruit** Mar 2022
- Awarded to the top performing recruit in BMTC.
- DragonBoat Captain** Jan 2020 - Dec 2021
- Dragon Boat Captain for St. Joseph's Institution.
- Canoeing Vice-Captain** Jan 2018 - Dec 2019
- Canoeing Vice-Captain for St. Joseph's Institution.