

# WONG PEI XIAN

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## Education

### National University of Singapore

Aug 2020 – Present

*Bachelor of Computing (Computer Science), GPA: 4.74 (DEAN'S LIST – Y1S1)*

*Singapore*

## Relevant Coursework

- CS4247 Graphics Rendering Techniques
- CS3241 Computer Graphics
- CS3247 Game Development
- CS2105 Introduction to Computer Networks
- CS2106 Operating Systems
- CS3230 Design and Analysis of Algorithms

## Interests and Technical Skills

**Games/Graphics Programming:** OpenGL, Unity, Unreal Engine, Shaders (GLSL, HLSL, Cg), WebGL, three.js  
**Web/Software Development:** sockets.io, MongoDB, ExpressJS, React, Node.js, NGINX, HTML/CSS, VCS (Git), Bash  
**General Programming Languages:** Python, C/C++, C#, Javascript/Typescript, Java  
**Stage Production Management/Technology:** GrandMA2, QLab, Assistant Stage Management

## Experience

### Google STEP (Student Training in Engineering Program)

May 2022 – Aug 2022

*Intern Backend Developer*

*Singapore*

- Designed and implemented in Python a bug diagnosis RPC service for the Google Pixel Modem Wireless team, which parses Android Debug Bridge bug reports and modem logs to identify keyword indicators of common bugs.
- Work with engineers to integrate automated issue diagnosis into existing Bugbot framework.
- Built robust unit tests and integration tests to ensure the service works across the internal network.

### BODYX Productions [live-app]

Dec 2021 – May 2022

*Solo Fullstack Web Developer, DevOps*

*Singapore*

- Designed and built a real-time web app from scratch with MERN, Typescript, next.js and WebSockets.
- Created chat functionality and interactive room controls designed for experiential theatre with WebSockets (sockets.io).
- Implemented REST API for user management (MERN stack), integrating with ticketing platform EventBrite.
- Deployed server with NGINX as reverse proxy and TLS Configuration with LetsEncrypt on Ubuntu 20.04.

### A New Lower Bound for Young's Cosine Series [FLW19]

Jul 2017 – Feb 2019

*Research Intern*

*NUS High School, Singapore*

- Awarded A\*Star Young Researcher Award (2019) and Singapore Mathematics Project Festival – Senior Bronze (2017).

## Projects and Competitions

### Doodle's Diary – A tower defence game [itch.io] | Unity, C#, GLSL

Feb 2022 – Apr 2022

- Coordinated the development process involving a group of 6 programmers.
- Implemented shader (HLSL) and post-processing pipeline.
- Created and used meshes, hand-drawn graphics for UI/UX.
- Assisted other programmers of different components with debugging C# scripts and resolving scene merge conflicts.

### Personal website [trxe.github.io] | Vite, three.js, HTML/CSS/Typescript

May 2022

- Created an immersive 3D canvas with three.js, using GSAP to handle camera movement animations.
- Wrote GLSL vertex and fragment shaders to create a planet floating on waves.

### CodeITSuisse Challenge 2021 | Python | Team 6<sup>th</sup>

Sep 2021

- Awarded overall 6<sup>th</sup> place out of 34 competing teams in Singapore.

## Leadership / Extracurricular

### ExxonMobil Campus Concerts (EMCC) Crew

Aug 2020 – Present

*Training Director*

*National University of Singapore*

- Planning and producing a comprehensive training programme with various experienced trainers encompassing stage lighting, live sound and production/stage management geared towards producing a concert slated for Jan 2023.

## Publications

[FLW19] J. Fong, T. Lee, and P. Wong. “A functional bound for Young's cosine polynomial”. In: *Acta Mathematica Hungarica* 160 (June 2019). DOI: 10.1007/s10474-019-00960-3.