

Irwin Tay

+65 81803913 | irwin0218@gmail.com | [linkedin.com/in/irwintay/](https://www.linkedin.com/in/irwintay/) | github.com/Irwintkc |
685B Jurong West St 64, #13-167, Singapore 642685

EDUCATION

National University of Singapore <i>Bachelor of Science in Physics (Honours), Minor in Medical Physics, Specialisation in Astrophysics, 2nd Class (Upper) Honours</i>	Singapore Aug. 2019 – June 2023
Anglo-Chinese Junior College <i>GCE A-Level, RP:81.25/90</i>	Singapore Jan. 2015 – Dec. 2016
Hua Yi Secondary School <i>GCE O-Level, 7As, L1R5:8</i>	Singapore Jan. 2011 – Dec. 2014

EXPERIENCE

Undergraduate Final Year Project <i>National University of Singapore</i>	Aug. 2022 – June 2023 Singapore
<ul style="list-style-type: none">Conducted research on gravitational wave analysis using machine learning techniques under A/Prof Alvin ChuaTesting various analysing techniques such as interpolation and poly-fittingBy using blackhole perturbation theory, successfully modelled a trivial case of gravitational waveforms, through the use of deep neural network, interpolation and polynomial fitting, produced by a special binary system.Potentially integrating the model into a Python Package (FastEMRIWaveforms - FEW)	
Tutor <i>Happy Tutors Learning Centre</i>	Apr. 2019 – Dec. 2022 Singapore
<ul style="list-style-type: none">Physics and Mathematics tutor who taught from Secondary to Junior College levelSuccessfully helped students improve their grades and helping them to enter the top Junior College in Singapore	
3rd Sergeant (3SG) <i>Republic of Singapore Air Force (RSAF)</i>	Jan. 2017 – Jan. 2019 Singapore
<ul style="list-style-type: none">Served in the 505SQN of Air Civil Engineering SquadronServed as the Guard of Honour for the Air Force contingent in the 2018 National Day Parade for Singapore's 53rd birthday	
Student Researcher <i>Agency for Science, Technology and Research (A*STAR)</i>	Dec. 2015 – July 2016 Singapore
<ul style="list-style-type: none">Worked under a mentor's guidance on a project titled 'Adaptive UI for Enhanced Music Experience'Conducted focus group studies as well as literature reviews to discover a user interface for a music playback application that personalises the experience for each user based on their listening habits, emotions and preferences.Cultivated Swift programming language via Xcode to develop a prototype of the applicationPresented research findings at the 2016 AHFE conference in Florida, USA	

CERTIFICATE

CS50AI: CS50's Introduction to Artificial Intelligence with Python edX	July 2022
Decentralised Finance (DeFi) Infrastructure Coursera	June 2022
Introduction to Data Science in Python Coursera	June 2022
Introduction to Structured Query Language (SQL) Coursera	May 2022

ACHIEVEMENT

Boon Lay Community Service Book Prize 2020 People's Association	2020
A*STAR Science Award (Junior College) A*STAR	2015
Bronze Award Singapore Mathematical Olympiad (Senior Section)	2013
Honourable Mention Singapore Mathematical Olympiad (Junior Section)	2012
Grade 3 Violin The Associated Board of the Royal Schools of Music	2016

PUBLICATION

Tay, Irwin and Swee Lan See (2017). “Adaptive UI for Enhanced Music Experience”. In: *Advances in Affective and Pleasurable Design*. Ed. by WonJoon Chung and Cliff Sungsoo Shin. Cham: Springer International Publishing, pp. 105–115. ISBN: 978-3-319-41661-8. URL: https://doi.org/10.1007/978-3-319-41661-8_11.

TECHNICAL SKILLS

Languages: Python, L^AT_EX, SQL (MAMP), Swift, Markdown, Lua, C++ (Picking up currently)

Developer Tools: Git, VS Code, Vim, NeoVim

Softwares: Mathematica, Matlab, Maple, Origin, SRIM & TRIM

Libraries: pandas, NumPy, Matplotlib, Tensorflow, Keras, FEW, Scipy, scikit-learn

VOLUNTEERING & CO-CURRICULAR ACTIVITIES

Boon Lay Community Service (Meet the People Session)	Jan. 2020 – Dec. 2020
NUS Physics Society Event’s Vice Director	2022 – 2023
NUS Physics Society Orientation Camp Committee - Programs Head	2022
NUS Physics Society Orientation Camp Leader	2020
NUS Esports @ NUS E-Gaming, School Team 2 for Valorant	2020–2021
NUS Physics Society Marketing Director	2019 –2020
ACSian Theatre, Sound Designer/Tech Crew	2015 –2016
Vice Captain of Basketball School Team (2012), Basketball School Team	2011 –2016