Marvin Tai

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EDUCATION

Duke University, Durham, North Carolina   **Expected Graduation:2027**
Major: Bachelors of Science in Mathematics and Computer Science
Minor: Philosophy
Current GPA: 4.0
Activities: Math 122L Teaching Assistant, Duke Applied Machine Learning, Duke Impact Investing Club (analyst), Duke Climbing Club

Li Po Chun United World College, Hong Kong   2023
IBDP (Score:44/45) **SAT** 1550
Award and Honors: International Recipient of Sir Edward Youde Scholarship Memorial Scholarship for Overseas studies for excellence (5/1000+), Silver Medal on the Asian International Mathematics Olympiad (South East Asia)

EXPERIENCE

Software Intern for Christensen Family Center for Innovation, *Durham, North Carolina*   January 2024-Present
- Developed a minimal viable prototype of a elderly home-auction mobile app in FlutterFlow and ionic with dashboard and task-tracking capabilities.
- Led UI/UX design, and shipped to App Store for user testing.
- Repaired critical software issues, created feature prioritization roadmap, & wrote comprehensive product manual to improve user adoption.

IPV Primary Researcher, *Durham, North Carolina*   January 2024 – Present
- Conducted interviews with a diverse sample of individuals operating within the legal field who are qualified and allowed to take on cases of domestic violence, and penned their self-evaluated preparedness to handle cases of tech abuse.
- Coded in Latex to analyze interview data wrote a 10 page paper

TECHNICAL PROJECTS

AI Chess Engine, *Hong Kong, Hong Kong*
- Developed a full chess AI Engine using Google Guava, Intelliji, Java, GUI and implemented MiniMax algorithms to increase engine accuracy by 40%

Significant School Projects, *Durham, North Carolina*
- Developed Java Programs to compress and decompress digital data using Huffman Coding.
- Implemented word search algorithms using binary search and trees.

Duke Bass Connections, *Durham, North Caroline*   *June 2024 - Present*
- Planning to conduct data processing via a 50+ page dictionary to standardize 50k+ early modern English articles, and use supervised and unsupervised clustering models to categorize the preprocessed articles.

SaveOr App(Startup Venture), *Durham, North Carolina* Repository Link   January 2024-May 2024
- Worked with a graduate student to build an app for transferring personal property throughout generations to preserve family harmony.
- Designed the layout of the App as well as the website version for the company.

LEADERSHIP & COMMUNITY ENGAGEMENT

Student Government, *Durham, North Carolina*
Elected Senator   September 2023 – Present
- Devised strategies using the DSG database to link current upperclassman with graduated-Duke alumnus, resulting in 20% increase in alumni engagement and mentorship opportunities for students.

Founder, Hong Kong Filipino Free Press   September 2022-May 2023
- Coordinated 20+ schools and reached a national audience of 20,000+ through campaign initiatives where Hong Kong students experience a day in the life of a domestic helper.

Student Volunteer, DukeEngage in Senegal Program   June 2024 – August 2024
- Utilizing Python, ArcGIS, Geo-Py Pandas to help with the data cleaning and geo-locating processes in tracing the transatlantic slave trade.

Teaching Assistant, Duke Math Department , *Durham, North Carolina*   January 2024 – Present
- Explained tough concepts and broke down more than 1000+ problems
- Provided intensive support on weekly problem sets

TECHNICAL SKILLS & CERTIFICATION

Languages: Java, Python, R, C/ C++, JavaScript, HTML
Frameworks: AWS, LangChain, React, Node.js, JUnit
Developer Tools: Git, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ
Coursework: Data Structure and Algorithms; Object Oriented Programming; Linear Algebra with Proofs (graduate-level), **MIT** Introduction to Machine Learning 6.036 **Google** Crash Course on Python (Final Project on creating user accounts for Linux Server), **Harvard** CS50x