# Tse-Kai Chan

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## Education

**University of California, San Diego** — San Diego, CA

*Bachelor of Science in Computer Science, Regents Scholar, GPA: 3.98/4.0* — *Sep. 2022 – June 2025*

- Scholar Society, ICPC Team Member, Senior Standing

## Experience

**Research and Development (R&D) Intern** — Apr 2023 – Present

*Qualcomm Institute* — *La Jolla, CA*

- I am further developing the CyberArchWarehouse, an immersive collaborative environment within Unreal Engine 5 developed at the Qualcomm Institutes' Center for Cyber-archaeology and Sustainability.
- The CyberArchWarehouse is an open 'metaverse' for education and research communities that blends VR/AR, photogrammetry, GIS, and edge computing based rendering. It provides researchers and students a new social medium in which they can come together, analyze and study digitized assets from archaeological artifacts to fully simulated digital twins of natural and manmade structures.

**Regent Scholar Research Initiative** — October 2022 – Present

*UC San Diego Jacobs School of Engineering* — *La Jolla, CA*

- I am learning research foundations under Professor Hao Su at UC San Diego in the fields of Robotics, Machine Learning, and Computer Vision through the Regents Scholar Research Initiative (RSRI) program.
- I am learning reinforcement learning in robotics, computer vision, and deep learning.

**Software Engineer Intern** — Feb. 2022 – July 2022

*Nearal* — *San Jose, CA*

- I developed the front-end of the onboarding, sign-in, and registration interfaces of Nearal's android app in Kotlin, Android Studio, and GitLab.
- Nearal is a Silicon Valley startup and a location-based app for customers to search/browse and find local gig workers.

**Software Engineer Intern (Job Shadow)** — July 2020 – August 2020

*Cisco* — *San Jose, CA*

- I worked with a mentor on implementing automation for server policy deployment on Cisco Intersight, Cisco's product for managing multiple servers.
- I used professional tools like Python, Ansible, and GitHub.

## Publication

**Arbitrary Quantum State Coins - Implementation and Performance on Quantum-Walk-Based Algorithms**

- Proposed and implemented arbitrary quantum state coins. Analyzed their performance for quantum-walk-based algorithms on quantum simulator and IBM Q. Mentored by Dr. Wenchao Xu, MIT.
- Published on 2022 IEEE ICPECA Conference (IEEE Xplore).

## Awards

**Regents Scholarship** — Sep. 2022 – Present

- The Regents Scholarship is the most prestigious scholarship awarded to undergraduate students at the University of California. Regents Scholarships are merit scholarships, selected on the basis of academic excellence.

**USACO Platinum** | *Java, Adv. Data Structures, Adv. Algorithms* — Jan 2020 – Present

- Highest division in the USA Computing Olympiad (Top 200 Nationwide).

## Course Work

**Selected Coursework**: All required lower-division math and computer science courses; CSE 151A: Introduction to Machine Learning; CSE 152A: Introduction to Computer Vision I

**Enrolled (Spring 2023)**: CSE 100: Advanced Data Structures; CSE 101: Design and Analysis of Algorithms; CSE 151B: Deep Learning; CSE 152B: Introduction to Computer Vision II

## Technical Skills

**Languages**: Java, Python, Kotlin, C/C++, HTML/CSS, R, MATLAB, Assembly
**Skills**: Machine learning, Computer Vision, Problem-solving, Android Development, Game Development with Unity
**Developer Tools**: Git, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, CLion, LaTeX, Jupyter Notebook
**Libraries**: PyTorch, NumPy, Matplotlib, scikit-learn