# OLIVIA Y. LEE

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## EDUCATION

**Stanford University**                                                                                              **Palo Alto, CA**
*B.S. Symbolic Systems (Learning), M.S. Computer Science (AI). Minor: Mathematics – GPA: 4.105/4.0*    Sep 2020 – Jun 2024
- <u>Select Coursework</u>: Computer Science, Mathematics, Philosophy, Linguistics, Psychology, Design
  - CS: CS106B Prog. Abstractions, CS107 Computer Org. & Systems, CS110 Principles of Computer Systems, CS103 Discrete Math for CS, CS109 Probability for CS, CS161 Algorithm Analysis & Design, CS221 Intro. to AI, CS229 Machine Learning
  - Math: MATH51 Lin. Alg./Multivar. Calc., MATH52 Multivar. Integral Calc., MATH104 Matrix Theory, CS205L Math for ML
  - Other: PSYCH 240A Curiosity in AI, SYMSYS 205 Philosophy of Perception, PHIL20N Phil. of AI, PHIL151 Metalogic, DESINST210 Human Interaction in Digital vs. Analog World (d.school)

**Raffles Institution (Junior College)**                                                                                    **Singapore**
*Singapore-Cambridge General Certificate of Education A-Level – 90/90 Rank Points, 8 Distinctions*    Jan 2018 – Dec 2019
- Honor Roll. Raffles Science Institute, Tech-Entrepreneurship Club, AI Ethics Conference Organizer, Tennis Team Captain.
- A*STAR Science Research Award (Secondary & Junior College) – selected as one of ~80 students nationwide.

## RESEARCH EXPERIENCE

**Stanford Artificial Intelligence Laboratory (SAIL) – IRIS Lab |** *Research Engineer*          **Mar 2021 – Present**
- Conducted reinforcement learning research for robots to learn amidst occlusion via audio-visual imitation.    *arXiv: 2205.14850*
- Conducted rigid body simulations with MuJoCo, set up pipeline for robotic imitation learning using Oculus VR headset.
- Selected as 1 of 17 CURIS Fellows, Stanford's Computer Science summer research program for undergraduates.
- Co-first authored paper accepted to Robotics: Science and Systems 2022 conference (~30% acceptance rate).

**Stanford Existential Risk Initiative |** *AI Research Fellow*                                     **Jan 2021 – Aug 2021**
- Conducted AI safety and value alignment research into Eric Drexler's Comprehensive AI Services (CAIS) framework.
- Outlined a proposal for AI safety benchmarks in light of the CAIS framework in *Reframing Superintelligence* (2019).

**Entropica Labs Pte. Ltd. |** *Technical Business Strategist*                                      **Apr 2020 – Dec 2020**
- Conducted market research of nascent quantum computing industry, comprising >150 software/hardware companies worldwide.
- Established post-COVID-19 long-term business strategy and business model based on competitor and risk analysis.
- Worked with CEO to prepare for targeted ~$10M Series A financing, by researching and connecting with >30 potential investors.

**Center for Quantum Technologies |** *Research Intern*                                            **Aug 2018 – Sep 2019**
- First author of analysis discussing use of satellites to distribute private keys for quantum cryptography.    *arXiv: 1909.13061*
- Researched quantum computing theory and algorithms, by conducting literature reviews of 25 papers with postgraduate fellows.

## PROJECTS

**PSYCH 240A: Curiosity in AI Final Project**                                                       **Mar 2022 – Jun 2022**
- Proposed Model Predictive Curiosity (MPCu), backpropagates on predicted curiosity value to select curiosity-maximizing actions.
- Tested MPCu's capability to optimize for high-curiosity action values and enrich multi-object interactions in Box2D environment.

**CS 229: Machine Learning Final Project**                                                          **Mar 2022 – Jun 2022**
- Modeled improved zero-shot and few-shot transfer learning with self-supervised models for sentiment classification.
- Tested direct tuning, zero-shot, and few-shot capabilities of logistic regression models (with validation), long-short-term memory (LSTM) networks with frozen and trainable word2vec embeddings, and DistilBERT to better understand respective limitations.

**Automatic Speech Recognition (ASR) for Indoor Navigation**                                        **Apr 2018 – Mar 2019**
- ASR app trained to understand Singaporean accent/terms for supermarket navigation. >50 users to date.    *Pitch: bit.ly/3gJvzdv*
- Compared performance of statistical NLP models on query analysis and recommendation quality.    *Github: SG-ASR-App*

## ACTIVITIES & LEADERSHIP

**CS + Social Good |** *Fellowships Team (Team Lead, Executive Board)*                              **Jul 2021 – Jun 2022**
- Secured $25,000 in funding to support students in full-time summer projects in tech and social impact organizations.    *cs4good.com*

**Women in Computer Science (WiCS) |** *Outreach Team (Volunteer)*                                  **Sep 2020 – Nov 2020**
- Ran program for low-income, underrepresented students in STEM from the Palo Alto School District.    *web.stanford.edu/group/wics/*
- Developed curriculum incorporating core CS concepts and principles behind technologies like VR/CGI.

**Computer Science Summer Institute by Google |** *Student Participant*                                       **Jul 2020**
- Configured 20 web apps in a 4-week project-based JavaScript curriculum taught by Google engineers.    *Github: Google-CSSI-2020*
- Delivered a collaborative final project, a word-guessing game for vocabulary and language learning.    *Github: cssi-final-project*

## SKILLS

**Language Proficiency**: Native English and Mandarin speaker (18+ years for both)
**Technical Skills**: Python, Tensorflow, PyTorch, OpenCV, Robot Operating System, C++, C, JavaScript, HTML/CSS, R
**Work Eligibility**: Eligible to work in the U.S. with no restrictions.