

Statement of Purpose
Master of Engineering - Artificial Intelligence
Applicant: Lin-Hsi Tsao

When I took a ride on a Tesla automobile for the first time, I was surprised that the vehicle could depict streets and surroundings in detail on the screen, just like humans perceive the world. This experience triggered my passion for self-driving vehicles and propels me to step into the field of artificial intelligence, especially regarding Computer Vision and Natural Language Processing. I am applying to the MEng program at UCLA because it provides me with an environment to develop real-world applications and solve social issues with a group of outstanding members.

To pave the way for the future, I actively seize all the opportunities to earn research experience. At National Taiwan University, I designed a disentanglement framework for Domain Generalized Face Anti-Spoofing. The work was awarded first place in the Deep Learning for Computer Vision Final Project and submitted to AAAI for publication after further refinement. In addition, I have gained industry experience by joining two projects. First, I worked with the team to develop the Smart Face Recognition Access Control for a financial holding company. I improved the recognition rate from 98% to 100% successfully. To overcome the barriers posed by the COVID-19 pandemic, we also researched Masked Face Recognition and effectively achieved state-of-the-art performance, which research outcome was accepted by ICCE. Second, I actively participated in the research of Question Answering for an electronics manufacturing company. My efforts paid off when I led my team to reproduce a state-of-the-art model in the ShARC dataset. These invaluable research experiences have not only expanded my scope of knowledge but also equipped me with the ability to work independently and collaboratively to solve real-world problems.

I pay close attention to social issues and strive to stay on top of global development. Hence, I hope to pursue a field that enables me to address the most urgent needs of our society. According to my observation, the "road rage" phenomenon is prevalent in many countries, including Taiwan. Often, drivers refuse to give in to each other and resort to irrational quarrels since they treat each other as objects instead of subjects. I believe that more connections can be established between the drivers and the automobiles to create a friendlier and safer road environment. By integrating the existing self-driving system and AI-backed voice-activated robot technology, I seek to make driving more humanized to alleviate the problem of road rage. In this regard, UCLA's MEng program offers essential training with distinguished faculty for students to become experts of AI. For instance, Prof. Song-Chun Zhu's research on AI, vision, and robotics strongly appeals to me. I look forward to integrating these techniques to develop humanized vehicle systems and preparing myself for assuming positions in the Research and Development department in a related industry after graduation, such as Argo AI, Waymo, Tesla, etc.

UCLA's diversified courses will give me an in-depth understanding of deep learning and artificial intelligence, cultivating my competitive edge when entering the workforce. Attending your program will most certainly be a rewarding experience.