





# Yueh-Lin Tsou

Software Engineer

 415-619-8030  
 Hank Tsou  
 Hank Tsou  
 hank630280888@gmail.com

## Personal Website

Link: [Hank-Tsou \(Click\)](#)

URL: <https://hank-tsou.github.io/Hank-Tsou/>

## Programming Skills



## Technical Skills

### Machine Learning

- Data prediction
- Object detection
- Image segmentation

### Computer Vision

- Image & video processing
- Object tracking
- Target segmentation
- Image matting

### Artificial intelligence

- Game strategy design

### Web Design

- Personal Website Design
- Attend USC and Cal Tech Hackathon.

## OBJECTIVE

Desire a software engineering position which encourages excellent creative work and client service. 7 years of experience as skilled programmer with proven leadership and organizational skills. Currently pursuing a Master's Degree in Computer Science with GPA 4.0.

## WORK EXPERIENCE

### California State Polytechnic University – Pomona, California

#### Research Assistant | 2017 – now

- Studied in Computational Intelligence Lab
- Image and video processing for object detection and segmentation.
- 3D human model and pose construction.
- Auto data preparation for machine learning object detection.
- Object segmentation by using machine learning and image matting.

### California State Polytechnic University – Pomona, California

#### Teaching Assistant & Grader | 2018 – now

- CS 5990 – Deep Learning
- CS 4990 – Machine Learning
- CS 2400 – Data Structures and Advanced Programming
- CS 1300 – Discrete Structures
- CS 241 – Data Structures and Algorithms

### California State Polytechnic University – Pomona, California

#### Project Consultant | 2018

- Assisted machine learning project for object detection.
- Created an automated method leveraging 3D model reconstruction and computer graphics to synthesize images.

### World Vision, Taiwan

#### Information and Technology Engineer | 2015

- Information and data collection and personal data management.
- Setup computers and Internet connection, resolved equipment malfunctions, provided media access and transmit information.

## EDUCATION

California State Polytechnic  
University – Pomona, 2019

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**Master of Computer Science**  
GPA: 4.0

National Taiwan Ocean  
University, 2015

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**BS. Computer Science and Eng.**  
GPA: 3.3

## AWARDS

Academic Excellence Award  
NTOU (2014) (2015)

## LANGUAGE

English (Fluent)  
Chinese (Native)  
Taiwanese (Fluent)

## PROJECT

### Personal Website

- Build a personal website on Github space by using HTML, CSS, JavaScript and jekyll project.
- Link URL: <https://hank-tsou.github.io/Hank-Tsou/>

### Machine Learning: Object Segmentation & Classification

- Face Segmentation: **3rd** place in the Kaggle competition.
- Hair Segmentation: **4th** place in the Kaggle competition.
- Gender Classification: **3rd** place in the Kaggle competition.

### Artificial Intelligence Game Strategy

- Four-In-A-Line: **1st** place in the game competition.
- N-Queen: Apply Genetic Algorithm and Simulated Annealing.
- 8-puzzle: Use 'A' star algorithm with two different heuristic function.

### Image Processing OpenCV Implementation

- Implement image processing functions from scratch.
- Personal OpenCV function description and mathematical explanation.

### Scheduling Application

- The system is designed to create a meeting scheduler with graphical user interface by using JAVA, Maven project and MongoDB.

## RESEARCH

### MatRCNN: Moving Object Removal in Video Sequence

Presented on Aug 8, 2019

- Image and video processing for result improvement
- Object tracking algorithm and machine learning tracking base on fully convolutional Siamese networks.
- Object detection and segmentation base on Faster-RCNN and FCN.
- KNN Image matting

### Automated Data Preparation for Custom Object Detection

Presented on Aug 16, 2018

- Leveraging 3D model reconstruction and computer graphics to synthesize images and their bounding boxes for any custom objects.
- Using VGG-16 model with pre-train weight in the training process
- Implement the result on mobile devices.