

# UI Design Beyond Mouse + Keyboard

- Gesture, voice, and gaze interaction
- Computer vision for gestural interaction
- Teachable Machine & MediaPipe
- ...Course Perception Survey





Clip from "Introducing Apple Vision Pro" © Apple

**Computer vision** is a broad class of algorithms that allow computers to make intelligent assertions about digital images and video (Levin, 2006)

**READS MUCH *FASTER* THAN THE HUMAN EYE!**



*Automatic Address*  
**READER**

DEVELOPED BY  
**INTELLIGENT MACHINES RESEARCH CORP.**



MANUFACTURING COMPANY

*READS Typewritten or  
Imprinted ADDRESSES*

*READS and SORTS MAIL  
To 20 Destinations*

*LOCATES ADDRESS  
Anywhere on Envelope*

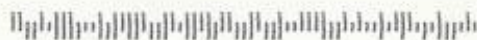
*SORTS 10000  
Envelopes Per Hour*

GREENSBORO, NC 274  
PIEDMONT TRIAD AREA  
20 FEB 2013 PM 6 L



*Tammy Hunter  
608 4th Street S.W.  
Independence, LA  
50644*

50644241408





80322-4129 80206

40004 14310



stop spam.  
read books.

3302 75216

35460 44209

**Computer Vision for Human Computer Interaction** is when a computer is controlled using a video camera

# **Video Place (Krueger, 1970s)**





ABCDEFGHIJKLMNOPQRSTUVWXYZ



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# Teachable Machine

**Train a computer to recognize your own images, sounds, & poses.**

A fast, easy way to create machine learning models for your sites, apps, and more – no expertise or coding required.

[Get Started](#)

<https://teachablemachine.withgoogle.com/>

[Home](#) > [Google AI Edge](#) > [Solutions](#)Was this helpful?  

# MediaPipe Solutions guide

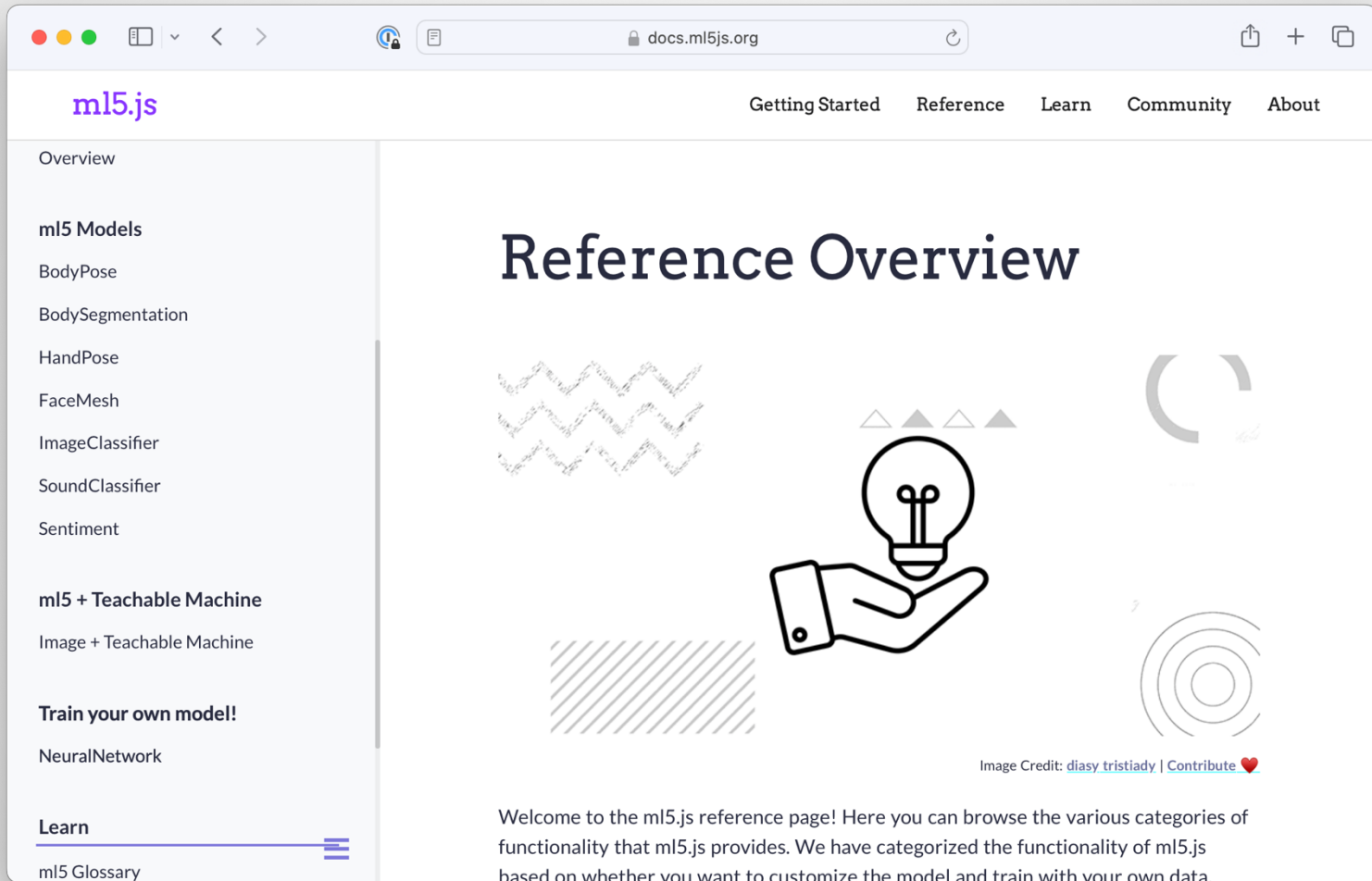
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## On this page

[Available solutions](#)[Get started](#)[Legacy solutions](#)

MediaPipe Solutions provides a suite of libraries and tools for you to quickly apply artificial intelligence (AI) and machine learning (ML) techniques in your applications. You can plug these solutions into your applications immediately, customize them to your needs, and use them across multiple development platforms. MediaPipe Solutions is part of the MediaPipe [open source project](#), so you can further customize the solutions code to meet your application needs. The MediaPipe Solutions suite includes the following:

<https://mediapipe.dev/>



# ml5.js - Friendly Machine Learning for the Web

- <https://ml5js.org>

do this right now  
or you'll forget!



**Complete the course perception survey for CS 349:**

<https://perceptions.uwaterloo.ca/>

***This is where you provide feedback on:***

- the course structure and content
- the instructor

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**To provide feedback on CS349 TAs:**

[https://www.student.cs.uwaterloo.ca/~cs349/IA\\_TA\\_feedback/](https://www.student.cs.uwaterloo.ca/~cs349/IA_TA_feedback/)

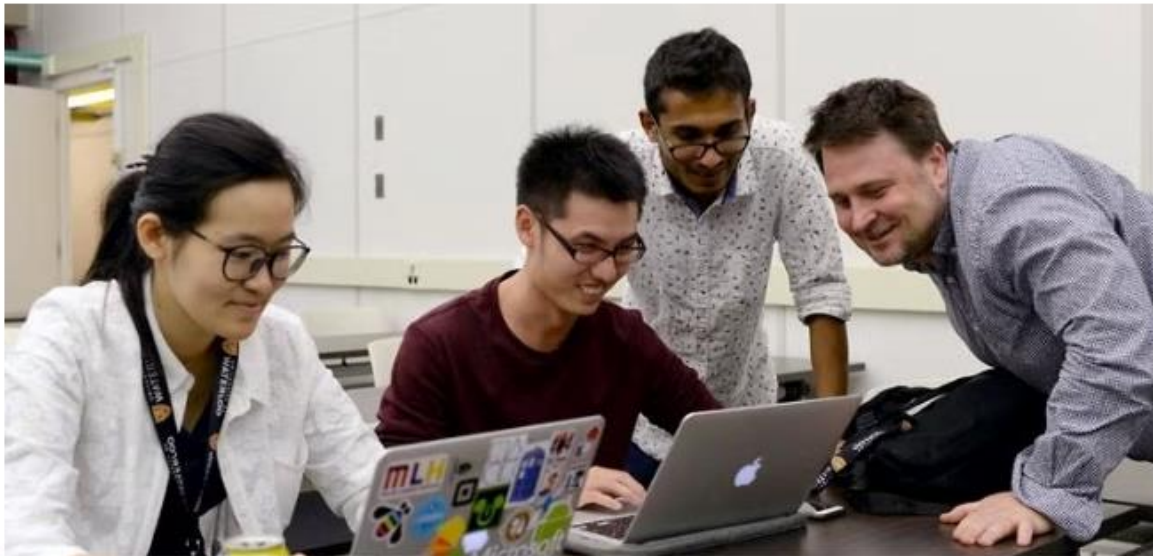
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# Undergraduate Research Assistantship (URA) program



### Quick links

- [Compensation](#)
- [Eligibility](#)
- [How to apply](#)
- [URA supervisor list](#)
- [URA research project list](#)

### Questions?

Interested students with questions should first refer to the [Undergraduate research FAQ](#) for more information on eligibility, finding supervisors, and more.

<https://uwaterloo.ca/computer-science/current-undergraduate-students/research-opportunities/ura>