

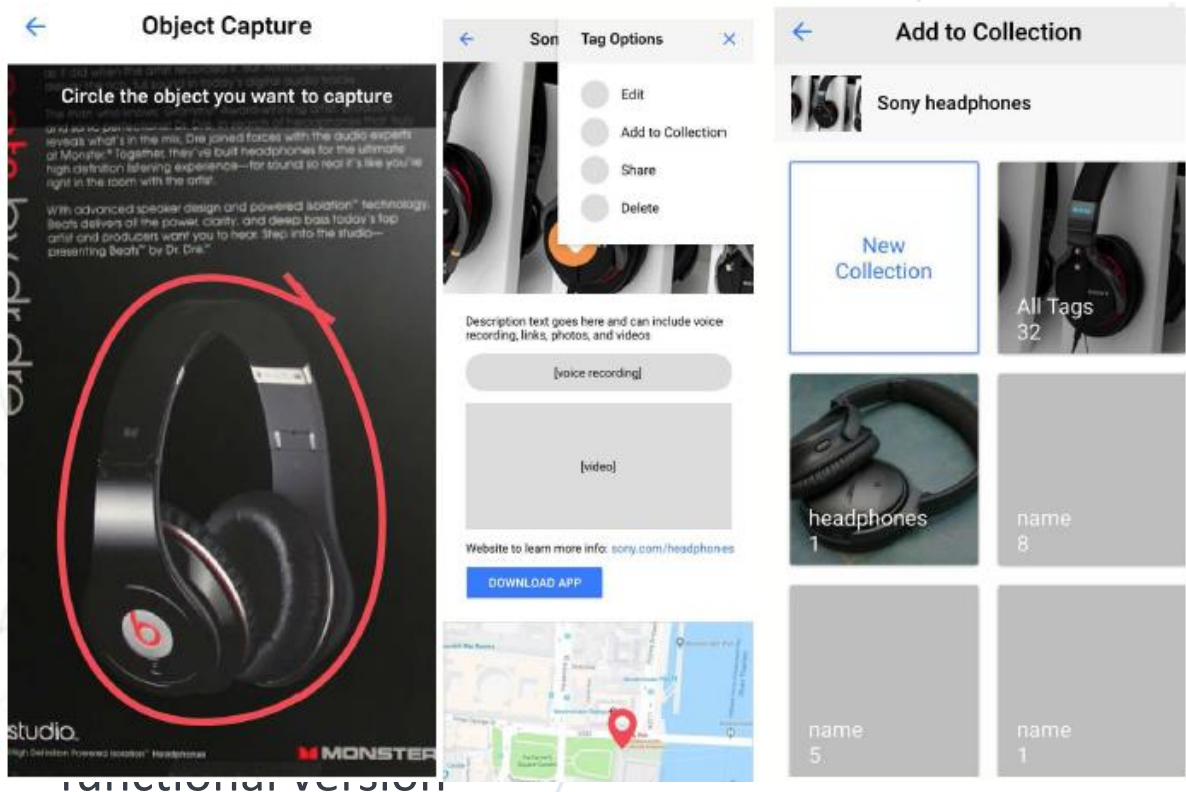
# Prototyping

Antonio Câmara

December 2022

# Software projects

## Initial market validation



# Software Projects

## **UI/UX Prototyping**

Square Space

<https://www.squarespace.com/>

Sketch

<https://www.sketchapp.com/>

Figma

<https://www.figma.com/>

## **Software development**

GitHub for students

<https://education.github.com/pack> (incluindo Atom, AWS, Cart, Stripe, Unreal)

## **Help**

Amazon Mechanical Turk

<https://www.mturk.com/>

# Augmented reality

## Open source augmented reality SDKs

### **10 Best SDK Available for Developing Augmented Reality Application**



vuforia



ARKit



ARCore



Wikitude



AR.js



ARToolKit

# Augmented reality

## Tracking Specialties

There are four main tracking specialties — plane tracking, SLAM/Markerless tracking, face tracking, and object recognition.

Plane tracking



SLAM aka markerless tracking



Face tracking



Object recognition



[Augmented reality SDKs comprehensive guide](#)

# Augmented reality

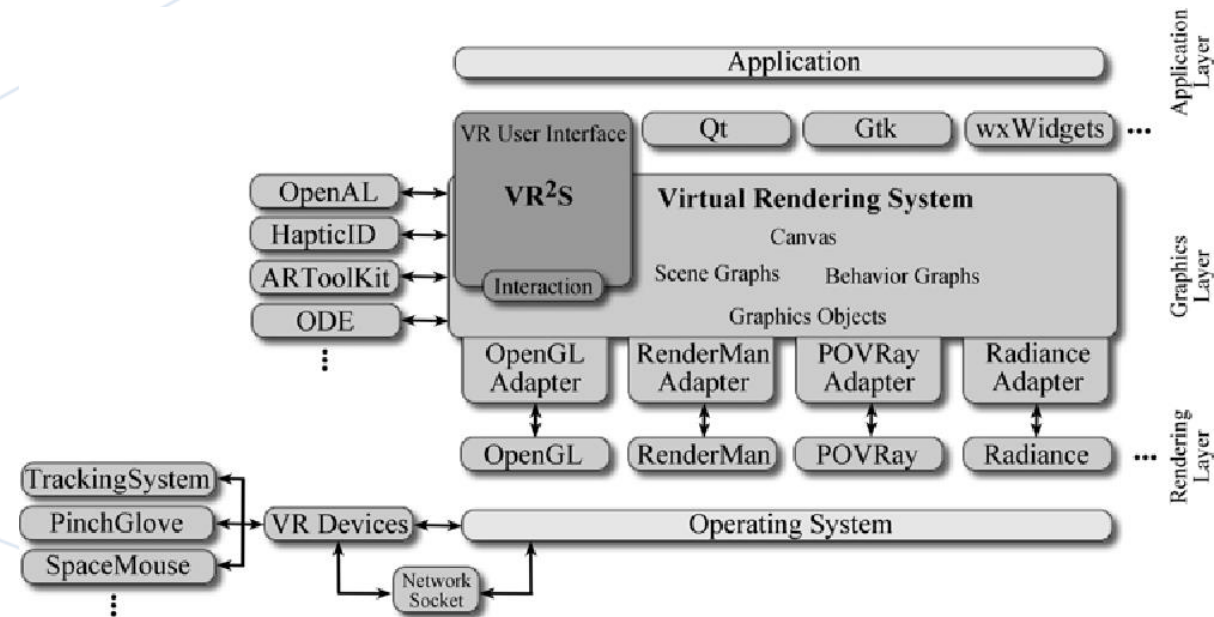
## Augmented Reality SDKs Reviewed

There are dozens of Augmented Reality SDKs, but that doesn't mean they all solve every problem. To help you find the one that is right for you, we have put together an overview of the best, most mature AR SDKs currently on the market. They are listed in alphabetical order.

Amazon Sumerian	➔
ARCore	➔
ARKit	➔
ARToolKit and artoolkitX	➔
DeepAR	➔
EasyAR	➔
Lumin SDK (for Magic Leap)	➔
MAXST AR SDK	➔
Marxent AR SDK with MxT Tracking	➔
Visual Studio	➔
Vuforia	➔
Wikitude	➔

[Augmented reality SDKs comprehensive guide](#)

# Virtual reality



[A generic virtual reality software system's architecture and application](#)

# Virtual reality

## Best virtual reality SDKs tools

Unity 3D

Unreal Engine

Blender

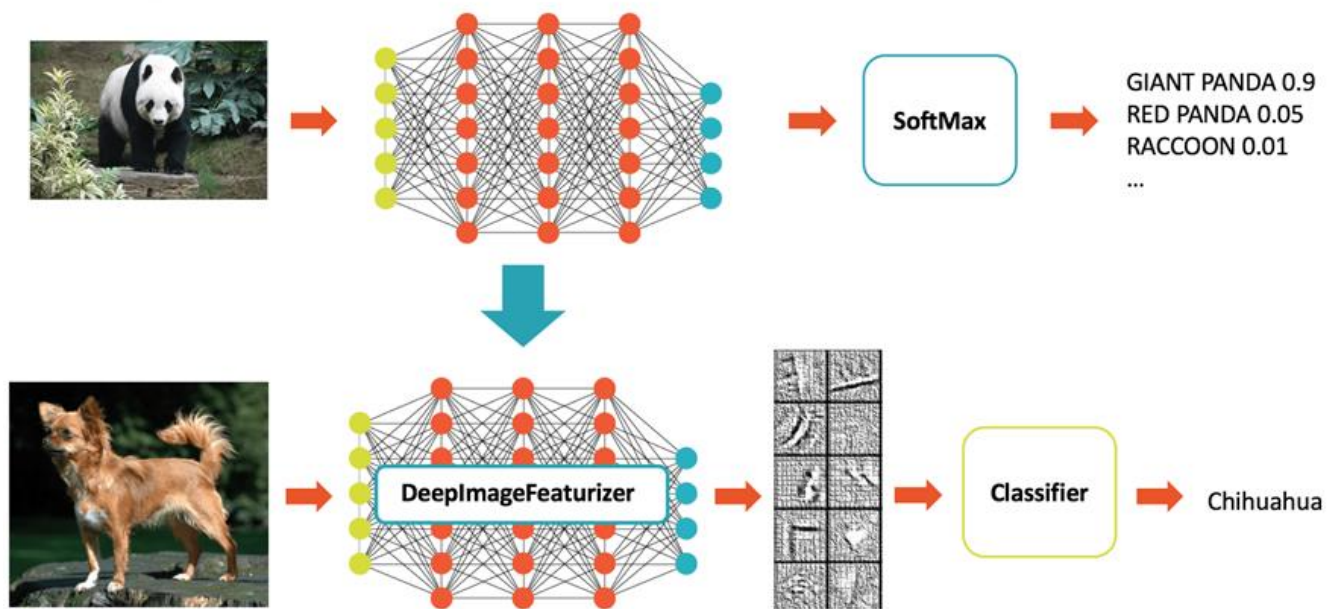
Amazon Lumeryard

Cry Engine



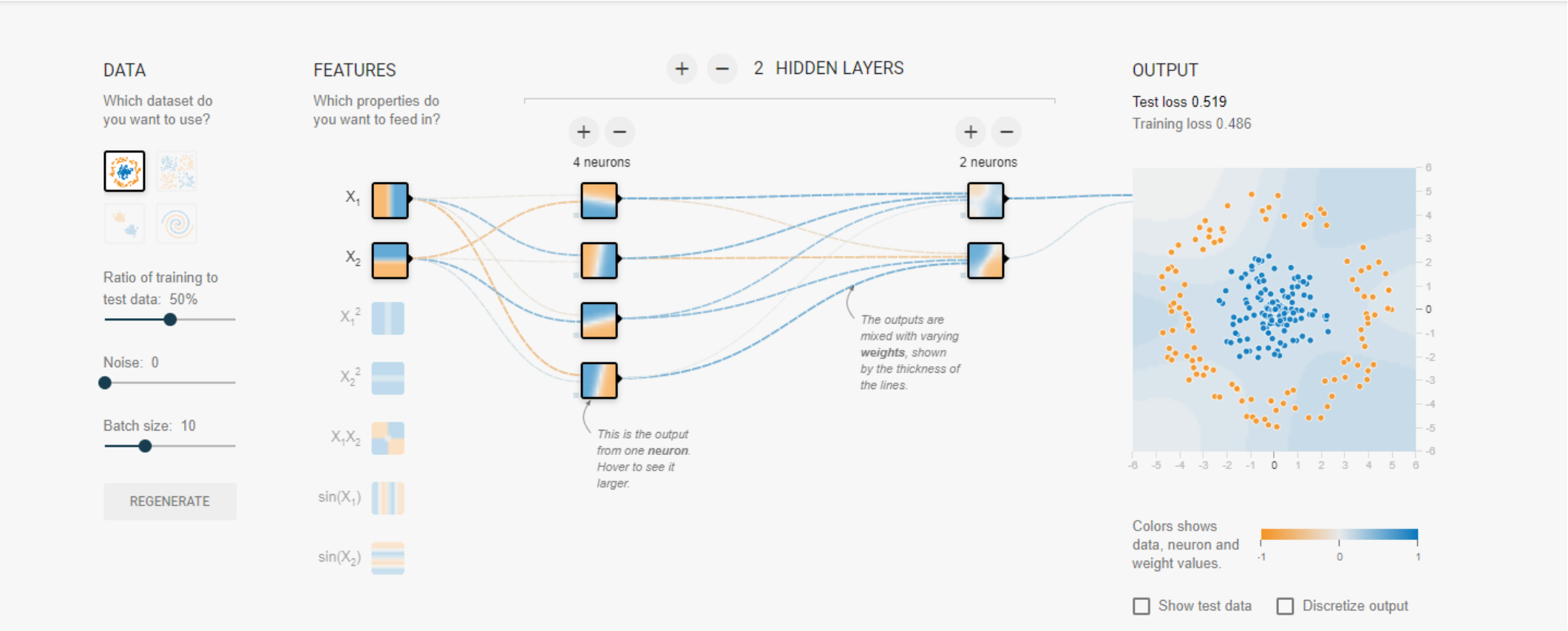
# Machine Learning

## Open source tools for machine learning



# Machine Learning

## Tensor Flow Playground with Tensor Flow



# Hardware projects

<https://www.codementor.io/blog/MVP-product-market-fit-2lvrzn68b2>

Market validation

Proof of concept

Prototype

“Minimum Viable Product”  
(MVP)



# Hardware projects

Development of physical prototypes

<https://predictabledesigns.com/how-to-prototype-hardware-product/>

Arduino

<https://www.arduino.cc/>

Raspberry Pi

<https://www.raspberrypi.org/>

Sensors

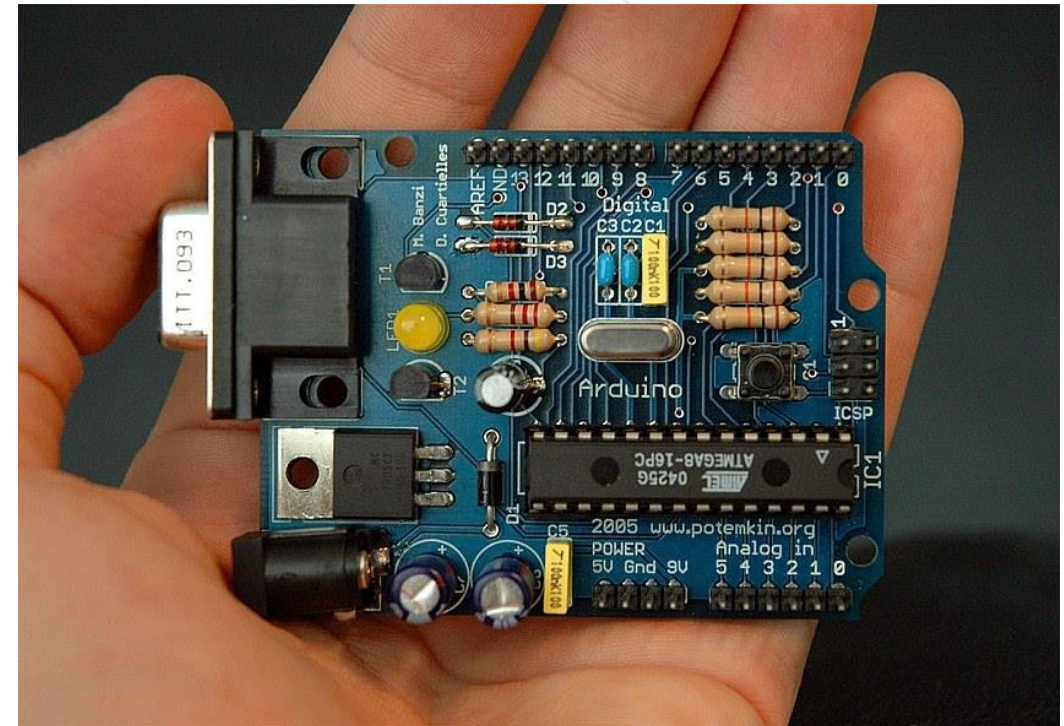
<https://www.sparkfun.com/>

Blender (modelação 3D)

<https://www.blender.org/>

3D Printing

<https://www.3dhubs.com/>



# Hardware projects

Help

Mechanical engineering

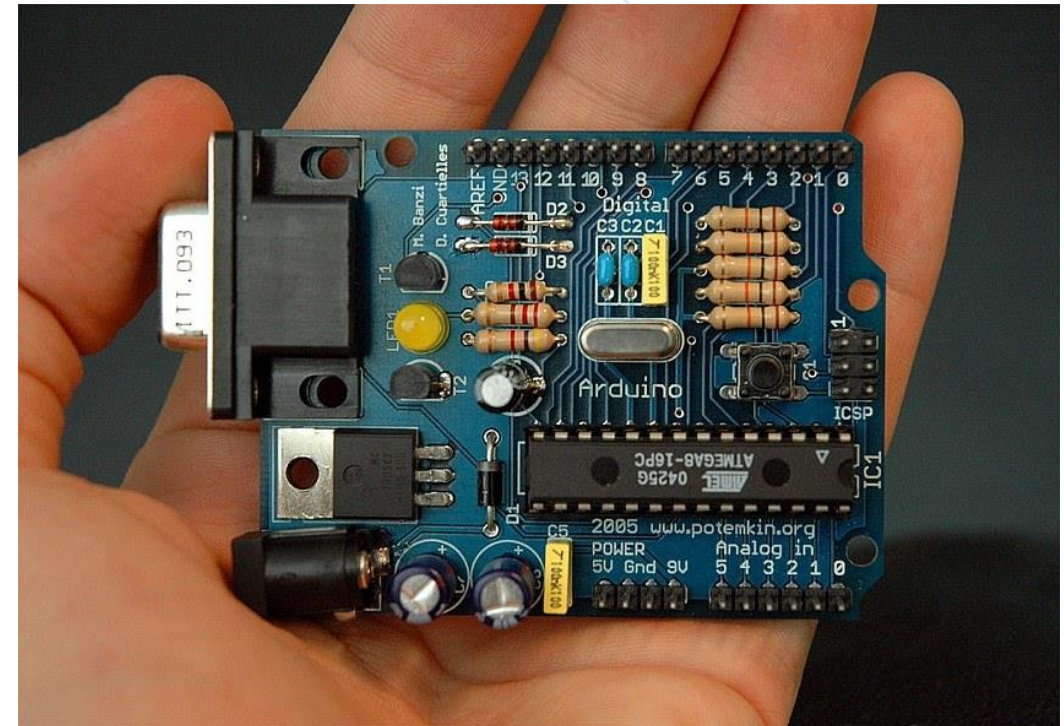
Grabcad

<https://grabcad.com/>

Electrical engineering

Instructables

<https://www.instructables.com/>



# Interviews

<https://www.youtube.com/watch?v=Xj8Zu8wuCNs>

“procurement” by Francisco Mendes (Hardware City)

<https://www.youtube.com/watch?v=CQYfz8Zf1ik>

Prototyping by Francisco Mendes and Sofia Almeida (Line Health)

# Prototyping

“Software”

<https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-831-user-interface-design-and-implementation-spring-2011/syllabus/>

“Hardware”

<https://ocw.mit.edu/courses/sloan-school-of-management/15-783j-product-design-and-development-spring-2006/syllabus/>

## Additional "Links"

[Comparison of software prototyping tools](#)

<https://docs.particle.io/guide/how-to-build-a-product/intro/>

[Lean startup](#)

[Bresslergroup](#) (innovation laboratory for product development)

[Highway1](#) (“hardware startup accelerator”)

[Altitude](#) (“rapid prototyping”)

# Leituras adicionais

David Wallace, Toy Product Design, 2008 (<https://ocw.mit.edu/courses/mechanical-engineering/2-00b-toy-product-design-spring-2008/index.htm>)

Neil Gershenfeld, How to Make Almost Anything, 2012 (<http://ocw.mit.edu/courses/media-arts-and-sciences/mas-863-how-to-make-almost-anything-fall-2002/>)

Olivier de Wek, Engineering Design and Rapid Prototyping, (<https://ocw.mit.edu/courses/aeronautics-and-astronautics/16-810-engineering-design-and-rapid-prototyping-january-iap-2007/index.htm>)

Ted Selker, Industrial Design: A Cognitive Approach, 2003 (<https://ocw.mit.edu/courses/media-arts-and-sciences/mas-742-industrial-design-intelligence-a-cognitive-approach-to-engineering-fall-2003/index.htm>)

Printoo Kickstarter video

<https://vimeo.com/92845728>



Printoo Kickstarter video

7 years ago | More

