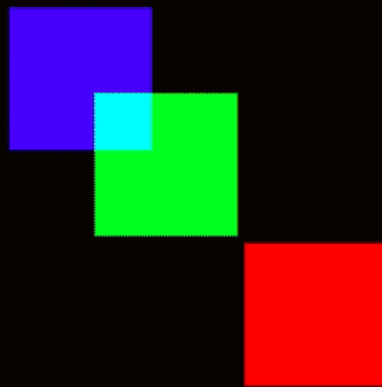


Introdução à Visão 3D



Prof. Dr. Diego Renan Bruno

Education Tech Lead na DIO

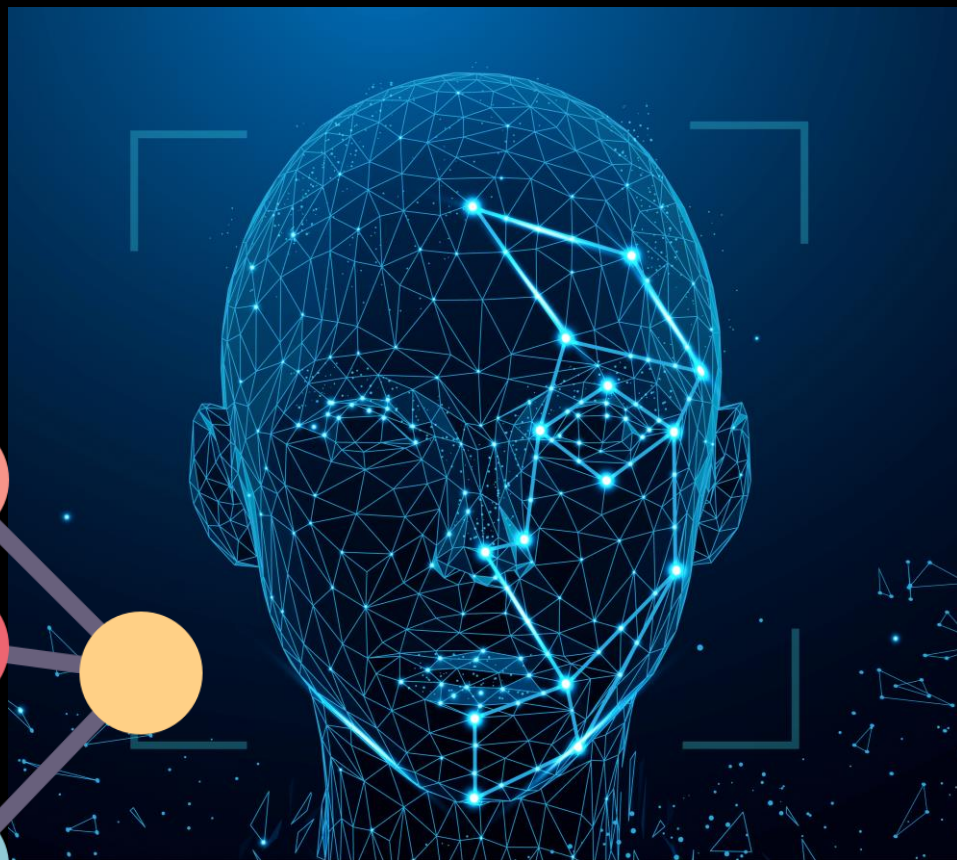
Doutor em Robótica e *Machine Learning* pelo ICMC-USP



OpenCV

Introdução à Visão Computacional 3D

Machine Learning



Posicionamento da câmera

Posição da captura da imagem:



Problemas de visão 2D – Reconhecimento Facial

Smartphones
Face
Unlock
Fail



<https://www.youtube.com/watch?v=QS8NerjNJSc>

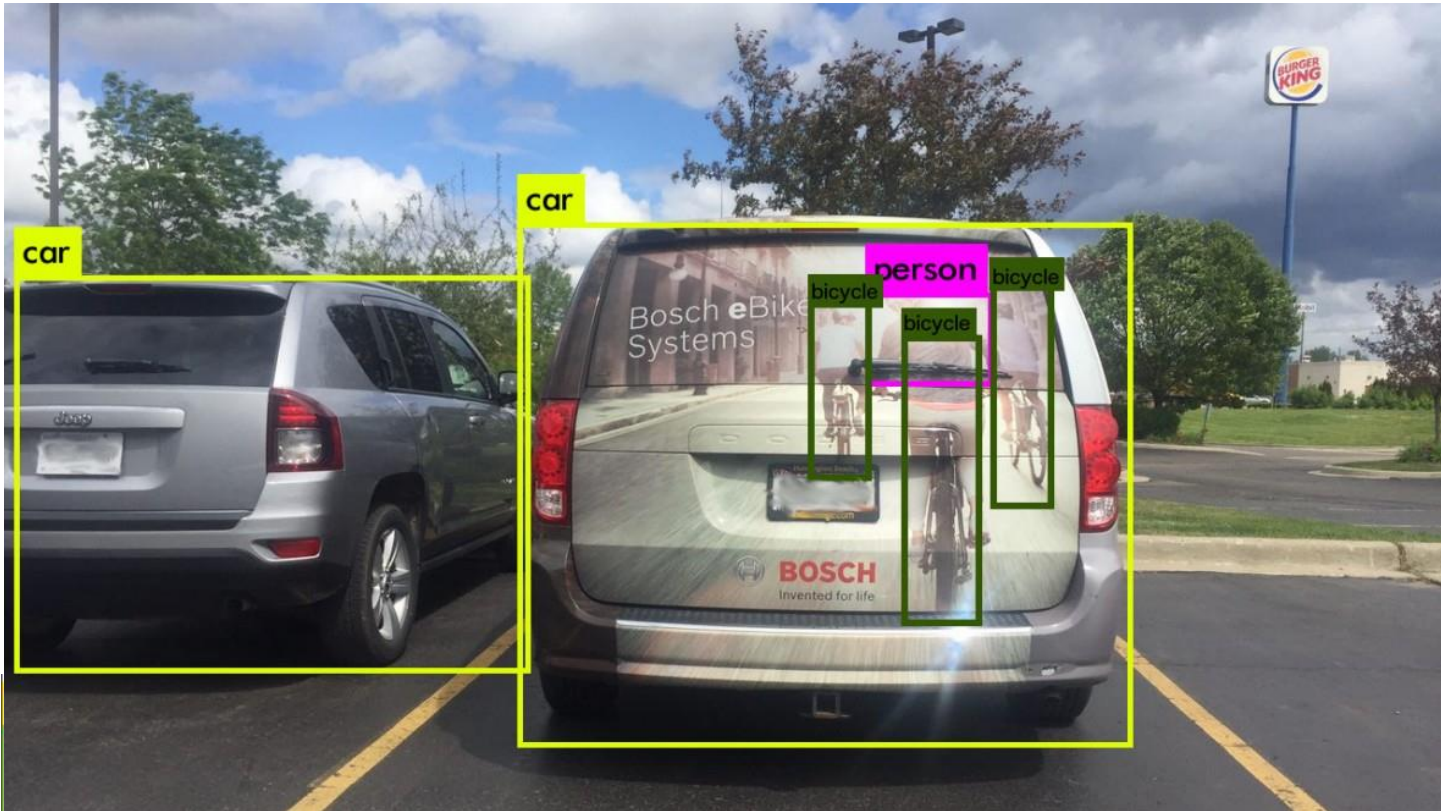
https://www.youtube.com/watch?v=IU_kbxpjQww

Problemas de visão 2D

AI System – Real Problem



Massachusetts
Institute of
Technology

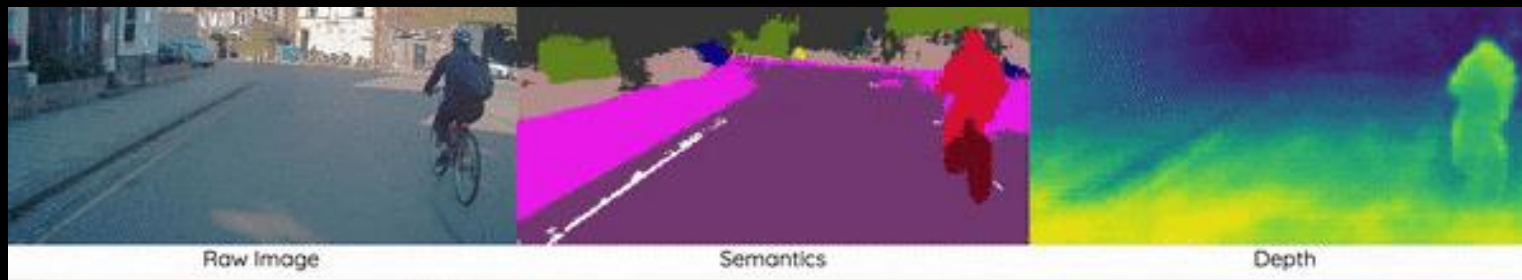


<https://www.technologyreview.com/s/608321/this-image-is-why-self-driving-cars-come-loaded-with-many-types-of-sensors/> But also... Researchers hack a self-driving car by putting stickers on street signs



Reconstrução de imagens 3D

Transformar uma imagem 2D para 3D:



3D Reconstruction: Rotate/Zoom with your mouse or finger

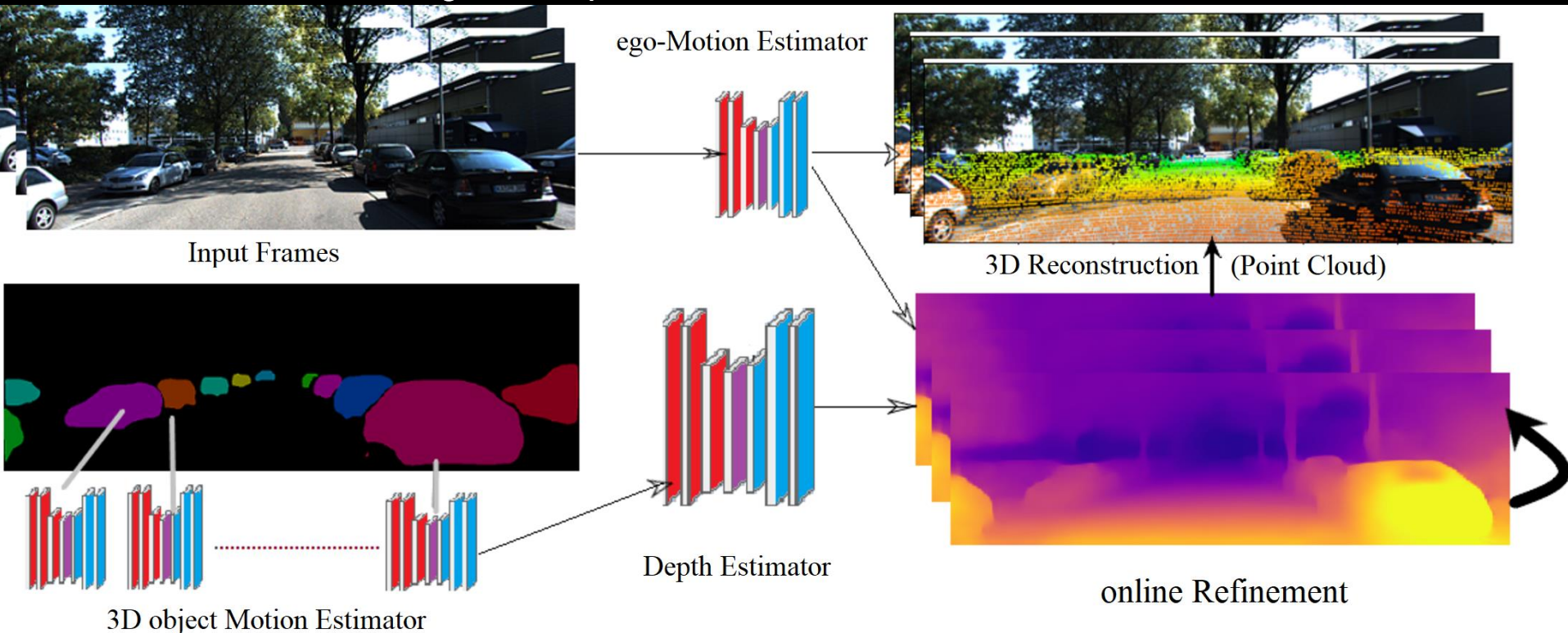


Processed in your browser in 8019ms



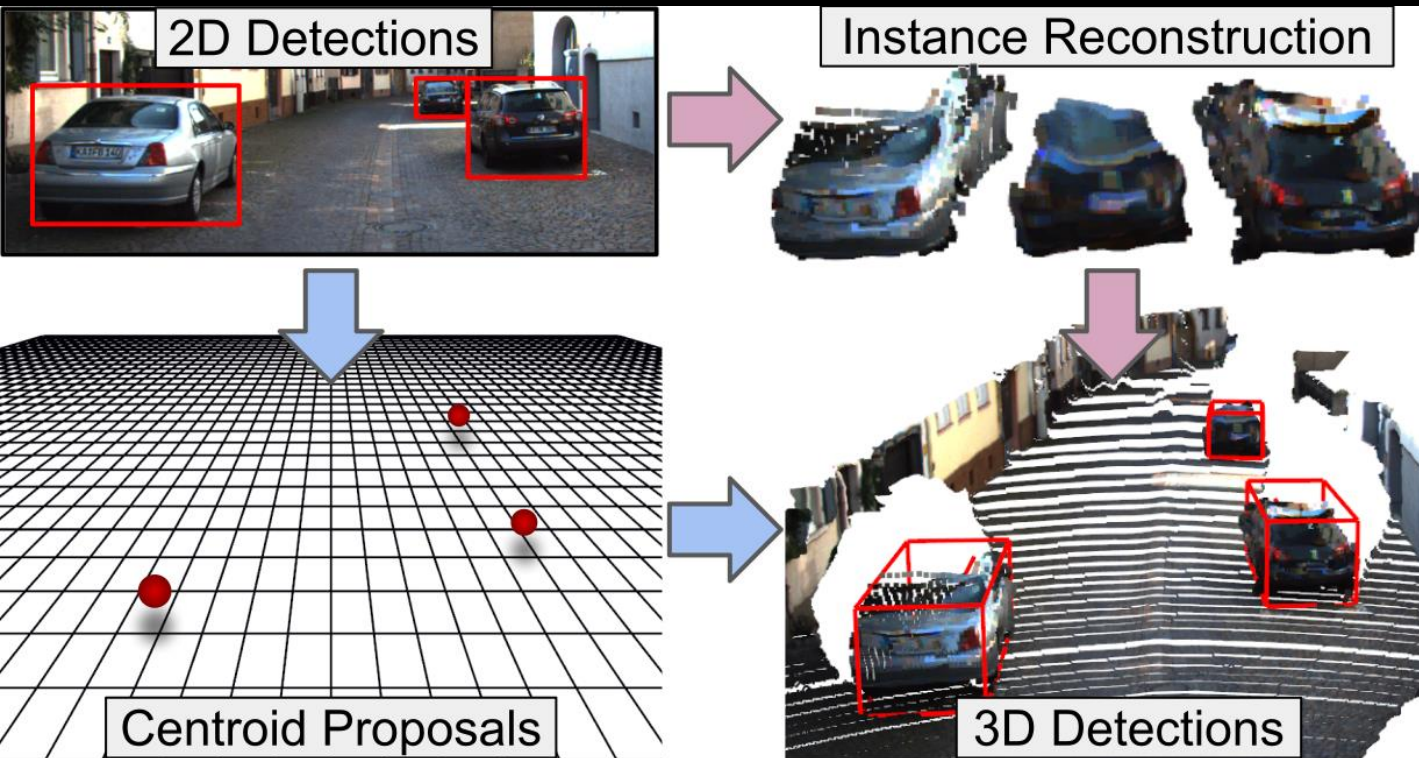
Reconstrução de imagens 3D

Transformar uma imagem 2D para 3D:



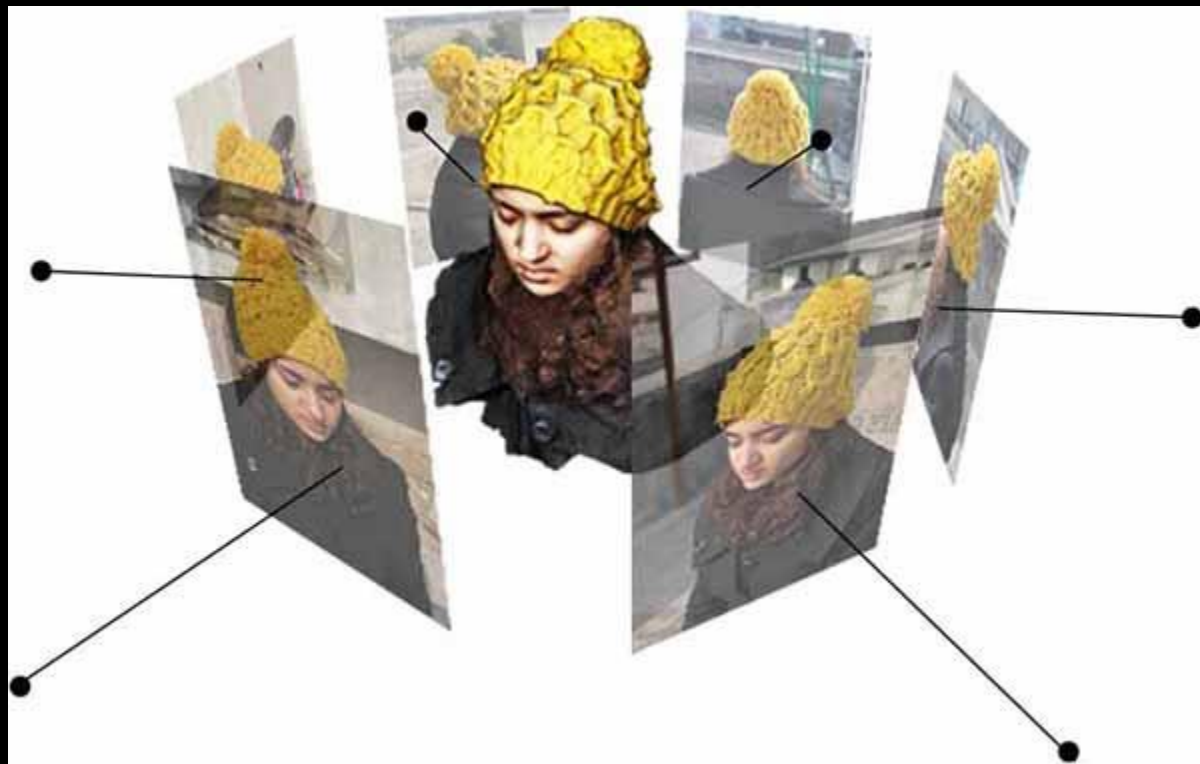
Reconstrução de imagens 3D

Transformar uma imagem 2D para 3D:



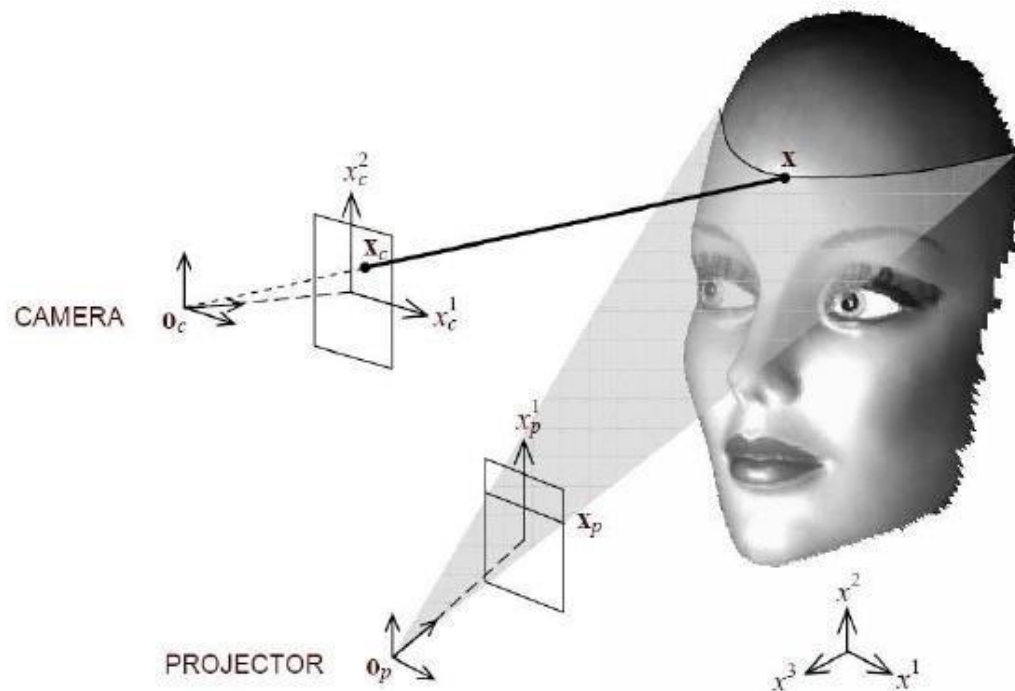
Reconstrução de imagens 3D

Transformar uma imagem 2D para 3D:



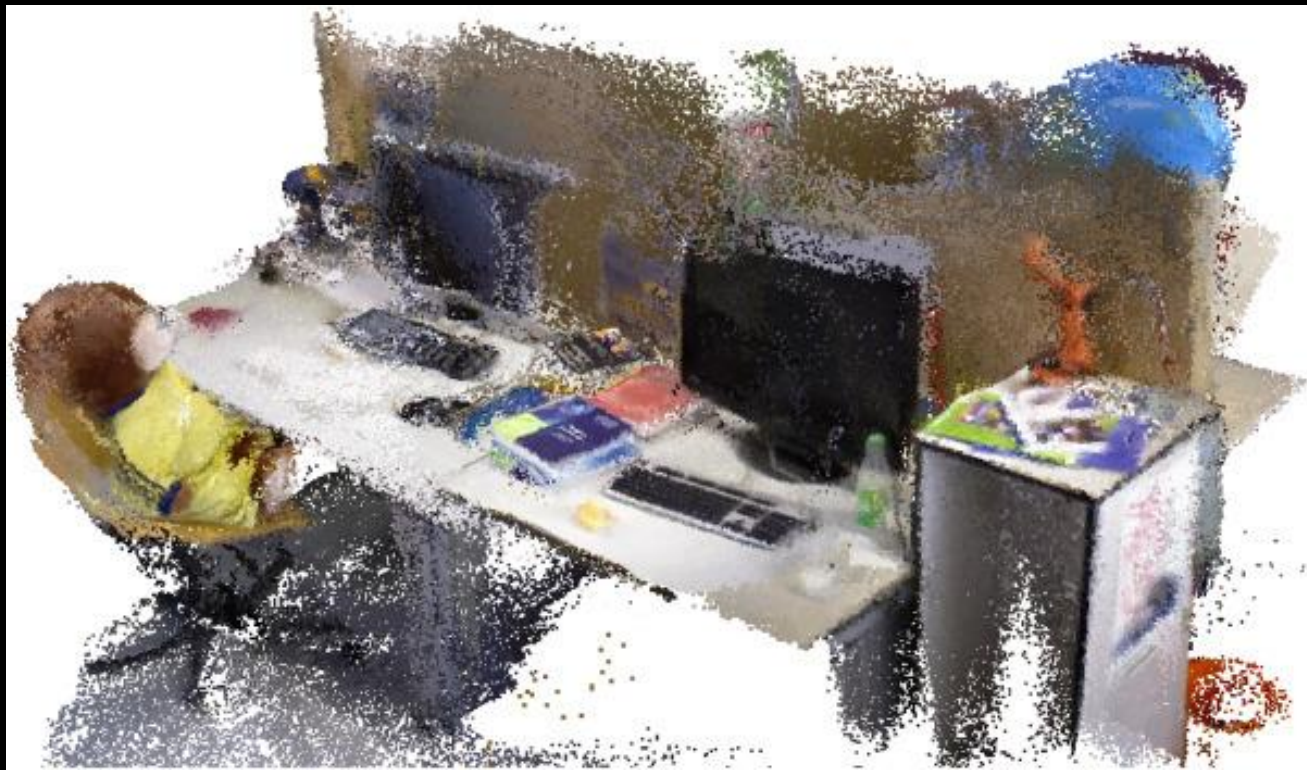
Reconstrução de imagens 3D

Transformar uma imagem 2D para 3D:



Reconstrução de imagens 3D

Transformar uma imagem 2D para 3D:



Obrigado!

Machine Learning

Prof. Dr. Diego Bruno



OpenCV