

Dingzeyuuli

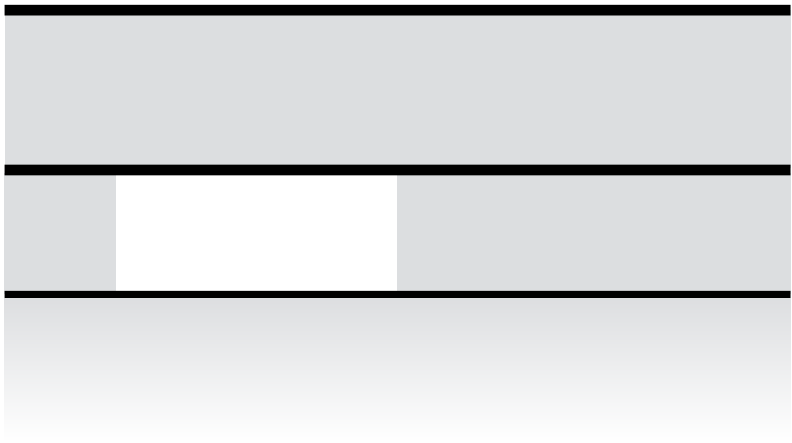
 COLUMBIA COMPUTER GRAPHICS GROUP 

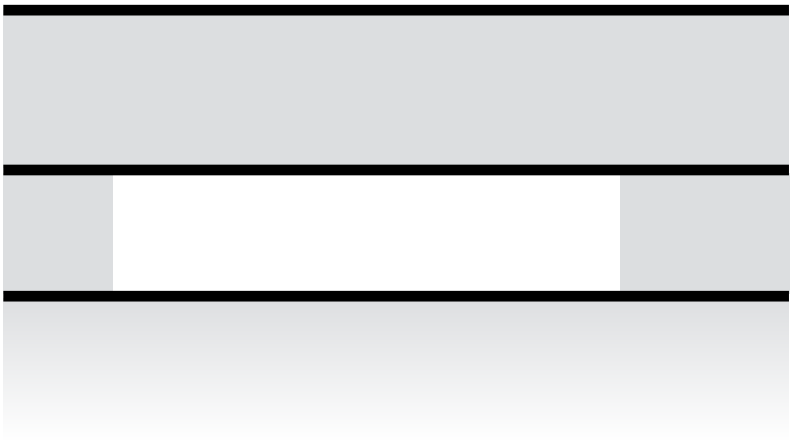
Oct 24, 2017

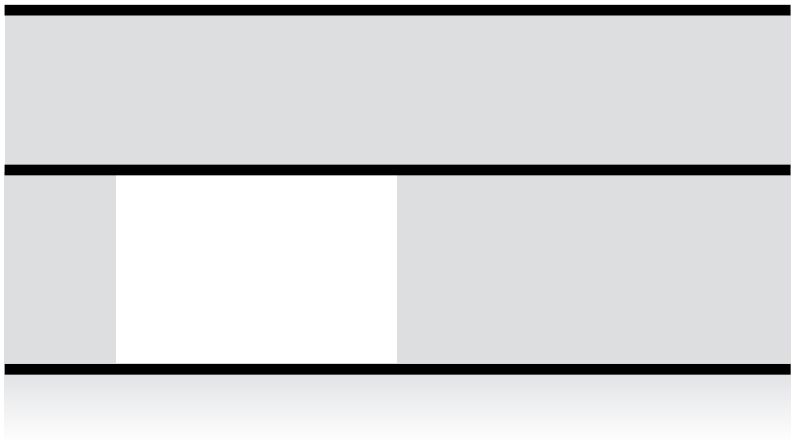
Putting it together

2

4



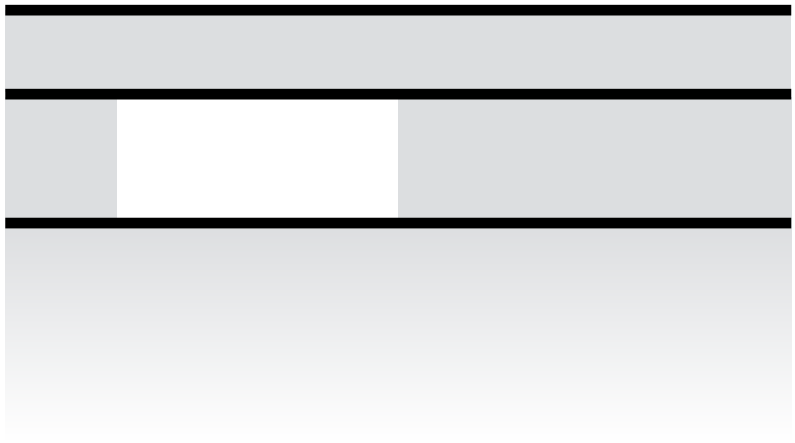


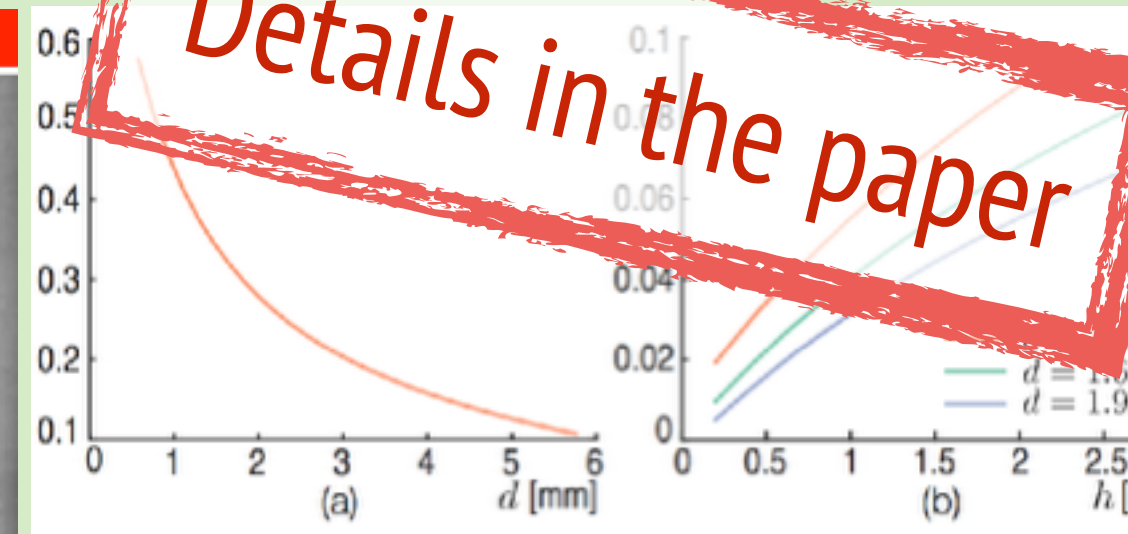
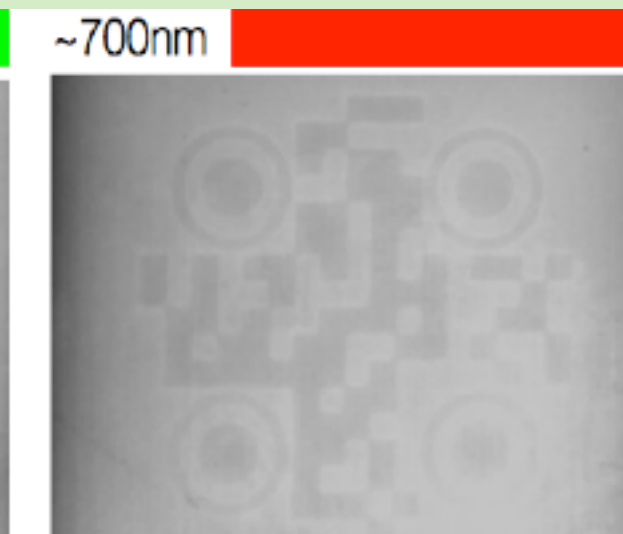
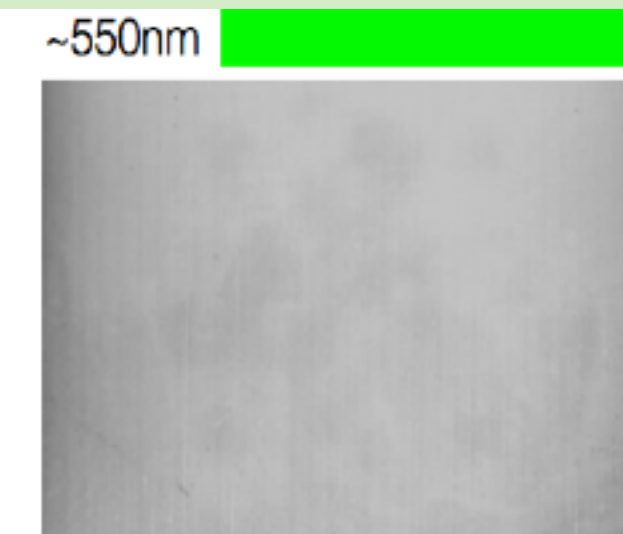
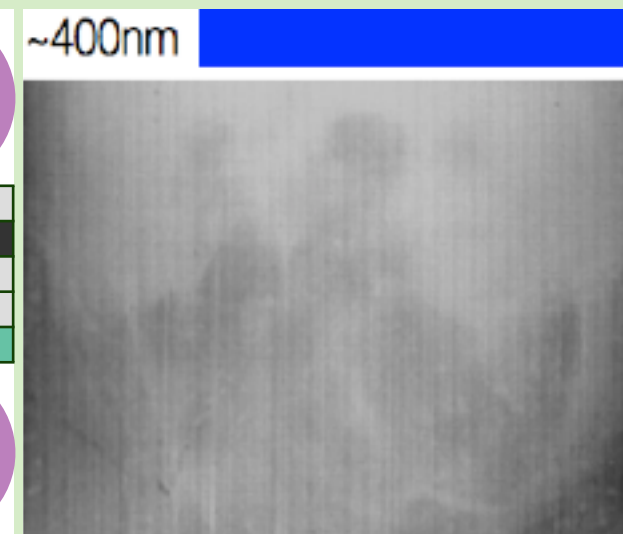
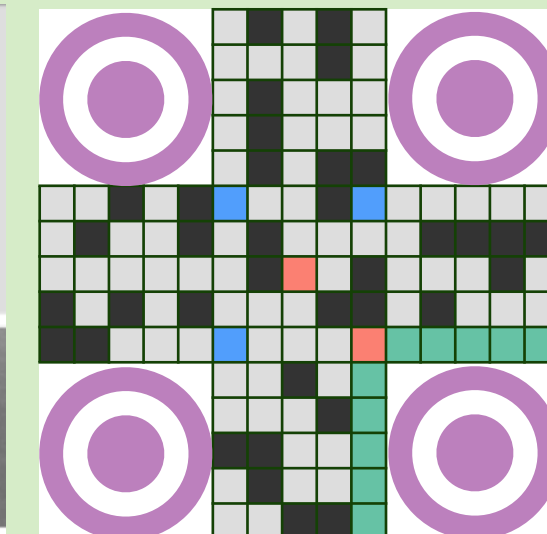
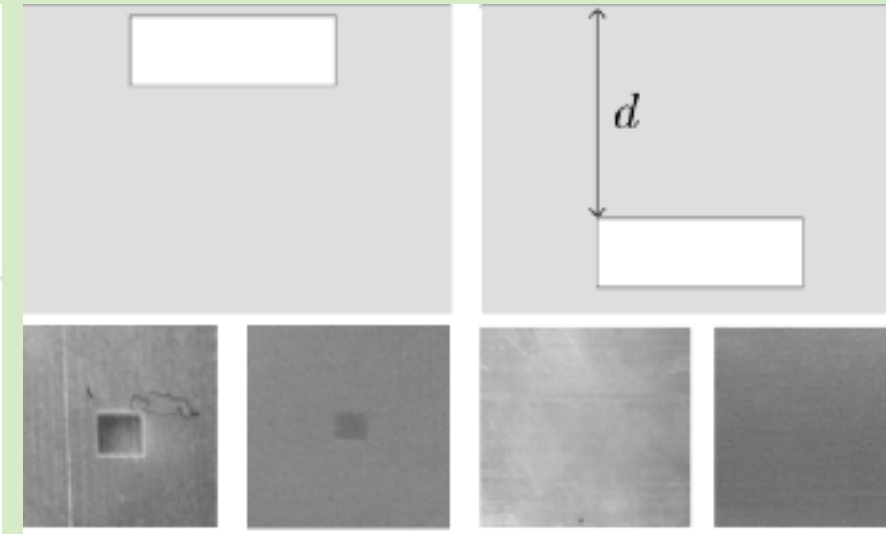
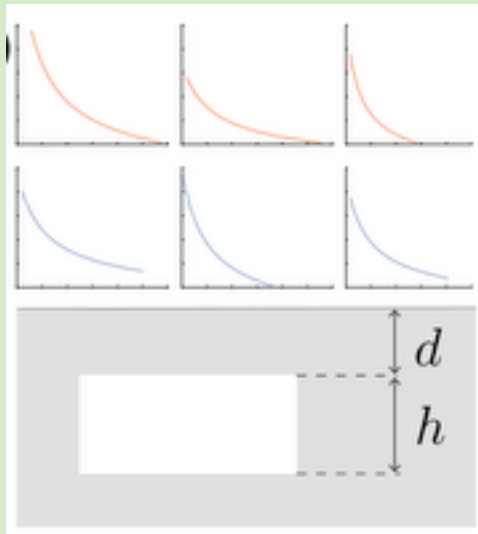




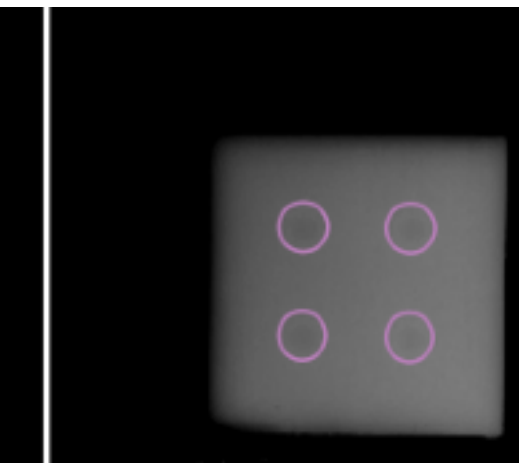
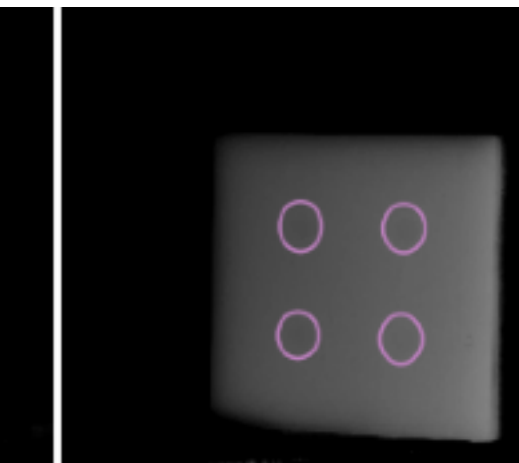
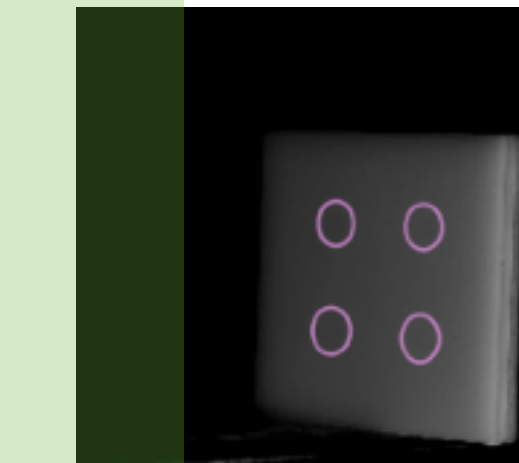








Details in the paper



$40^\circ/39.5^\circ$

$20^\circ/22.4^\circ$

$0^\circ/-0.5^\circ$

$$R(d) = \underbrace{R_1}_{\text{0-bounce}} + \underbrace{T_1 R_2 T_1}_{\text{1-bounce}} + \underbrace{T_1 R_2 R_1 R_2 T_1}_{\text{2-bounce}} + \cdots$$

+ 0.1% - 10%

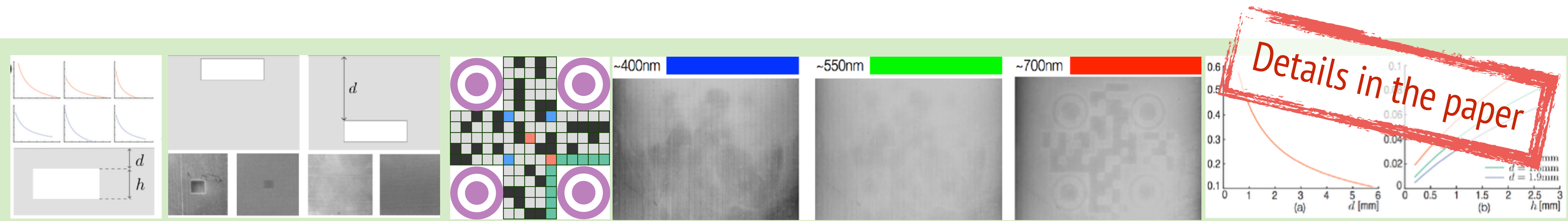
Putting it together



$$R(d) = \underbrace{R_1}_{\text{0-bounce}} + \underbrace{T_1 R_2 T_1}_{\text{1-bounce}} + \underbrace{T_1 R_2 R_1 R_2 T_1}_{\text{2-bounce}} + \dots$$

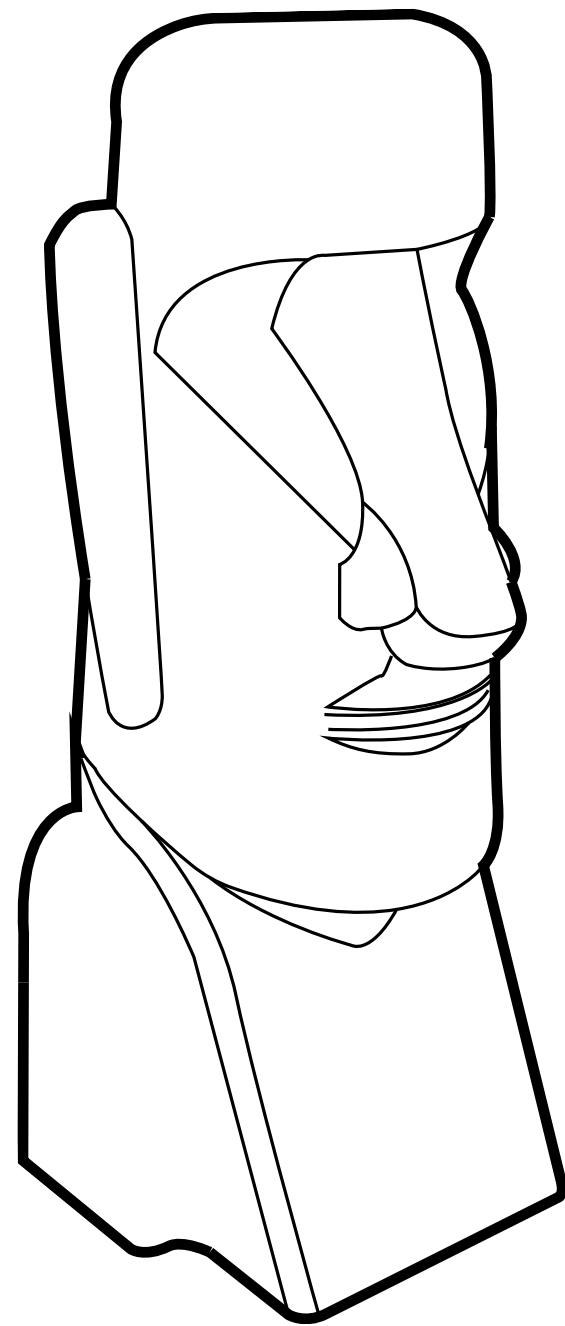
+

0.1% - 10%

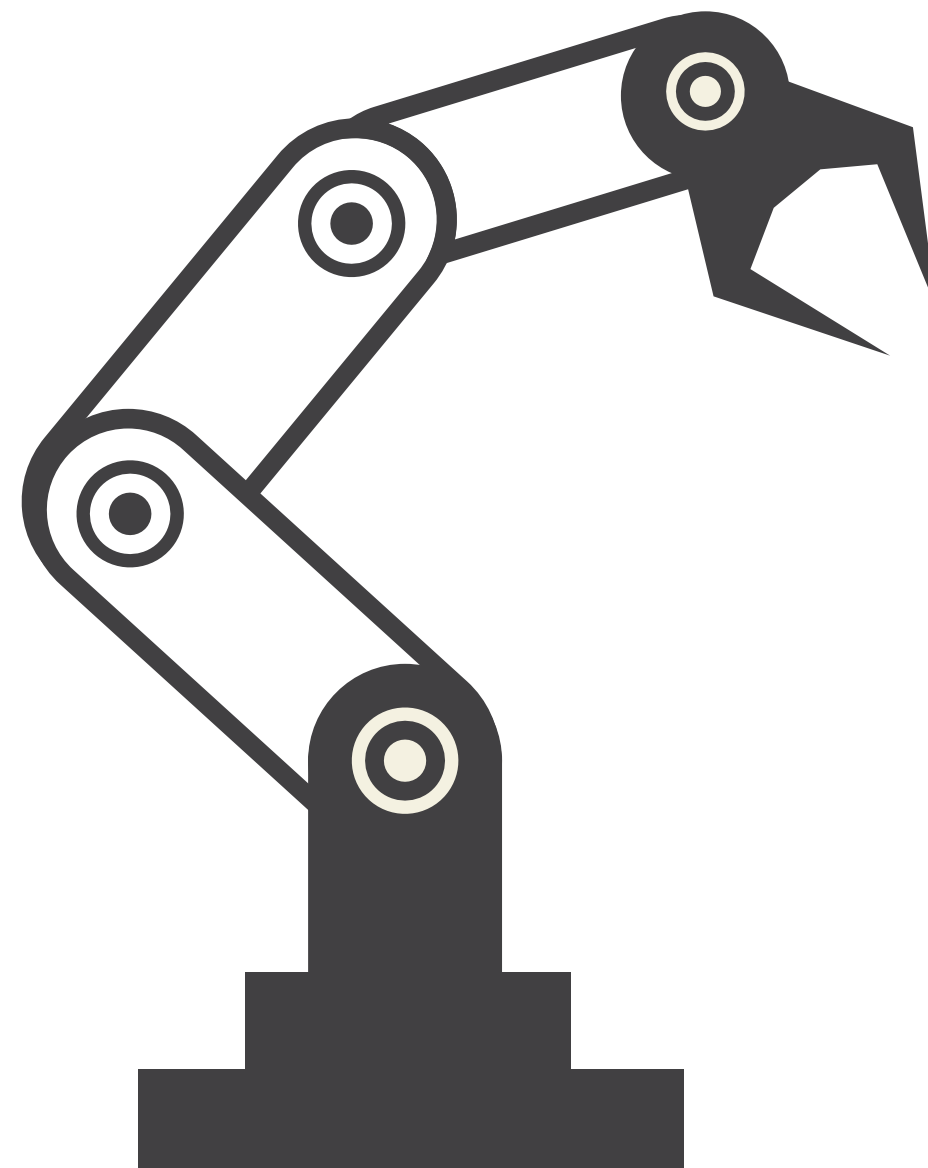


Applications

metadata embedding



robotic grasping



paper watermarking

