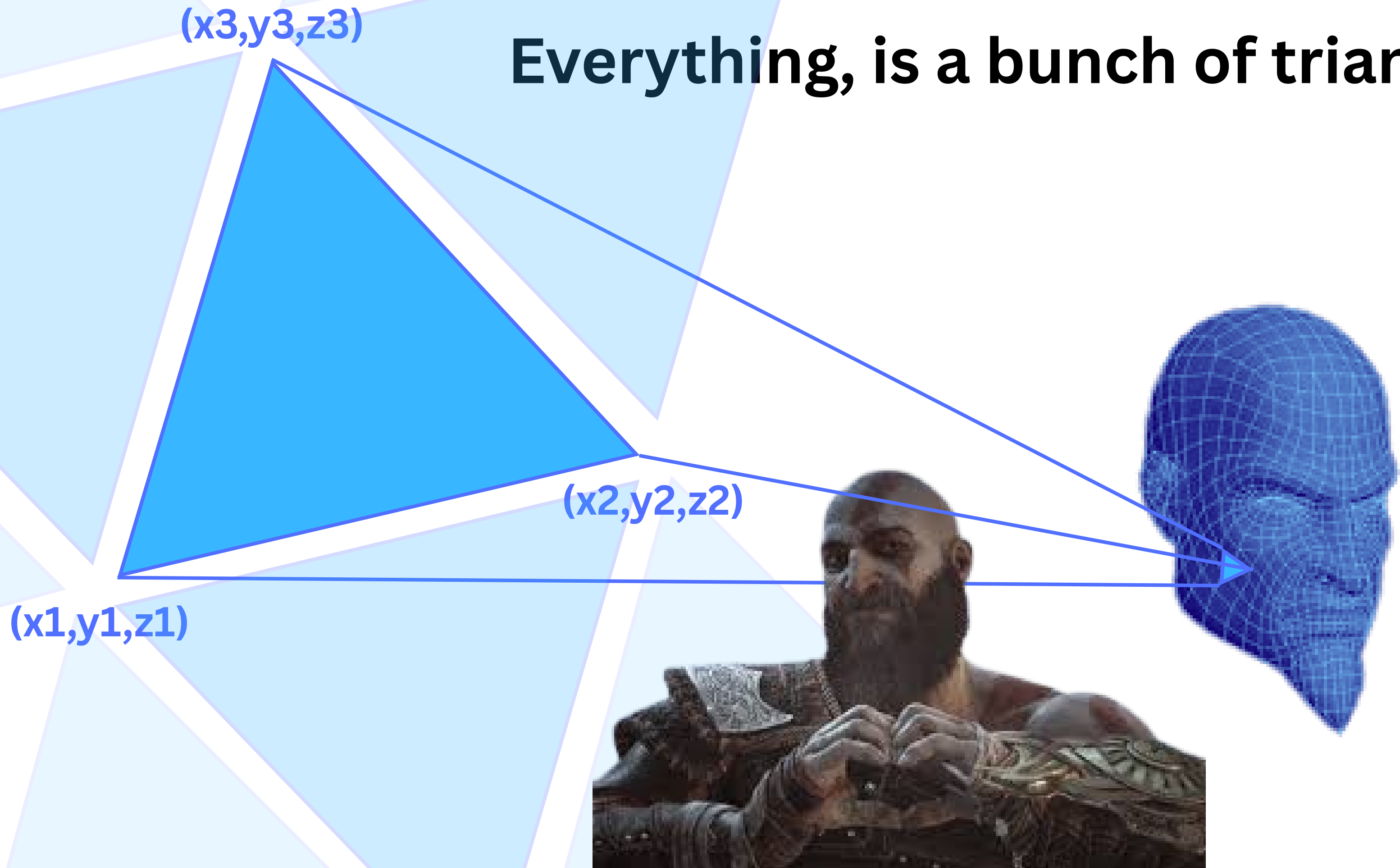


3D Computer Graphics

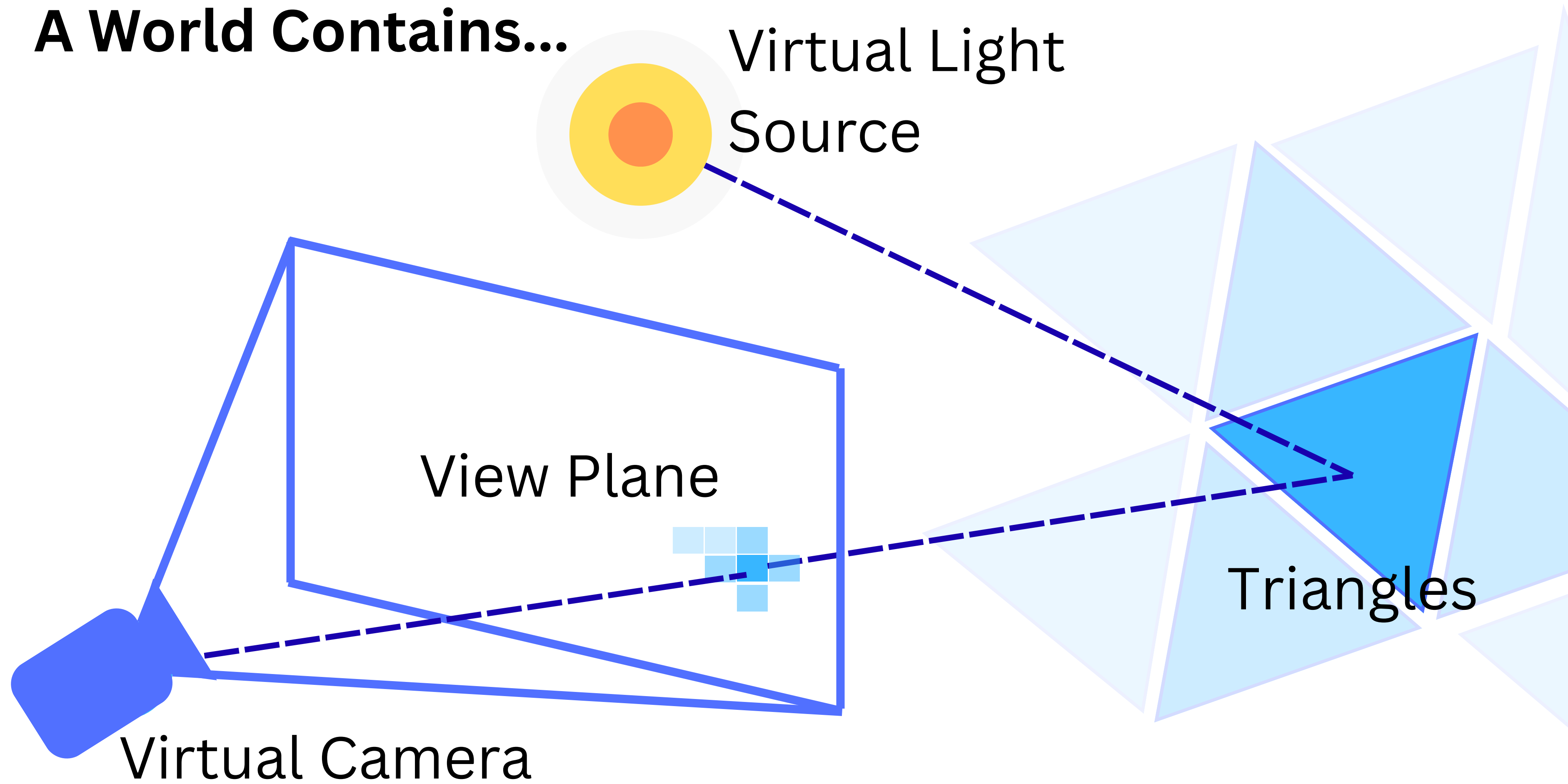
The Tech that Powers Video Games

By Maaz Malik

Everything, is a bunch of triangles



A World Contains...

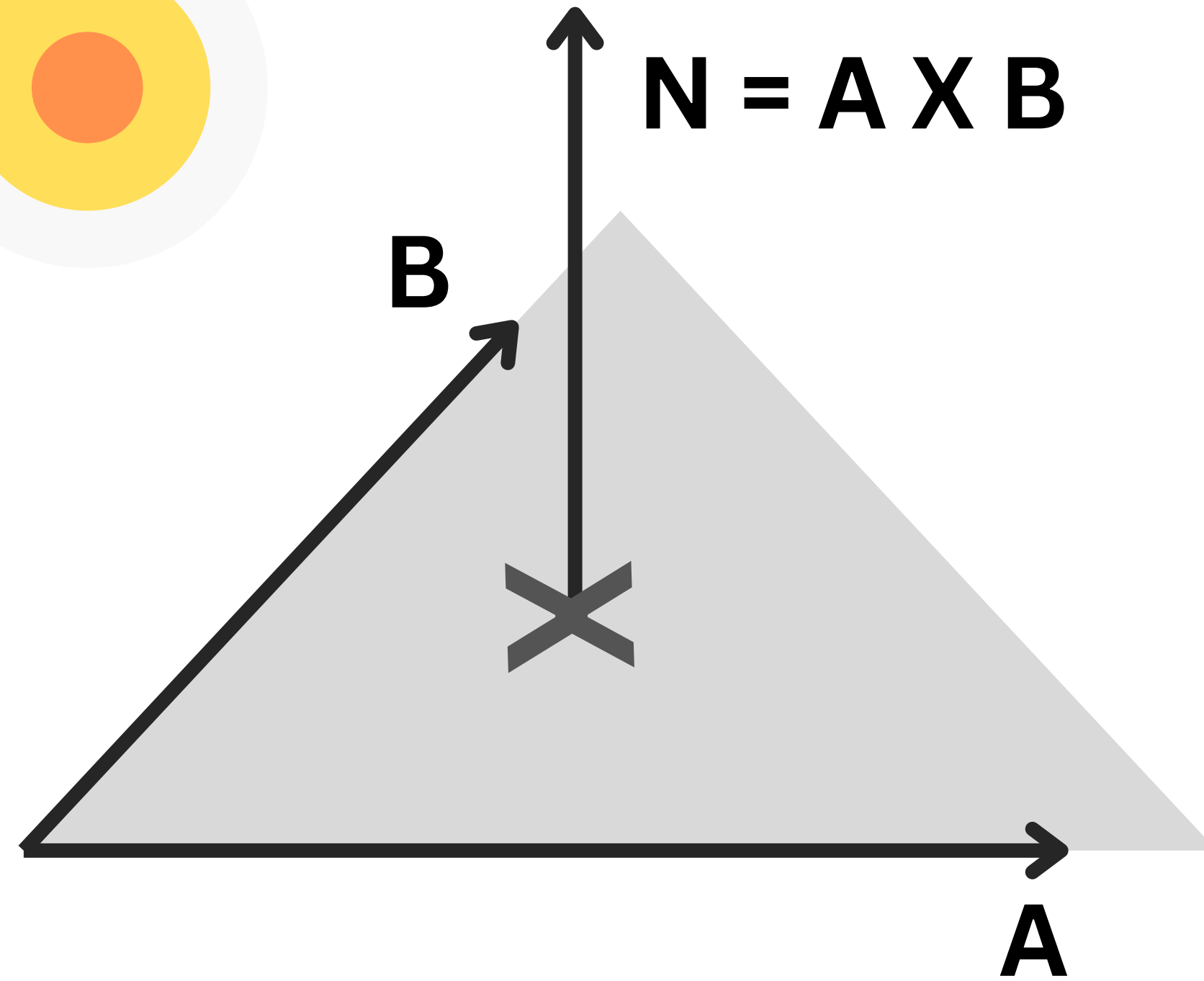
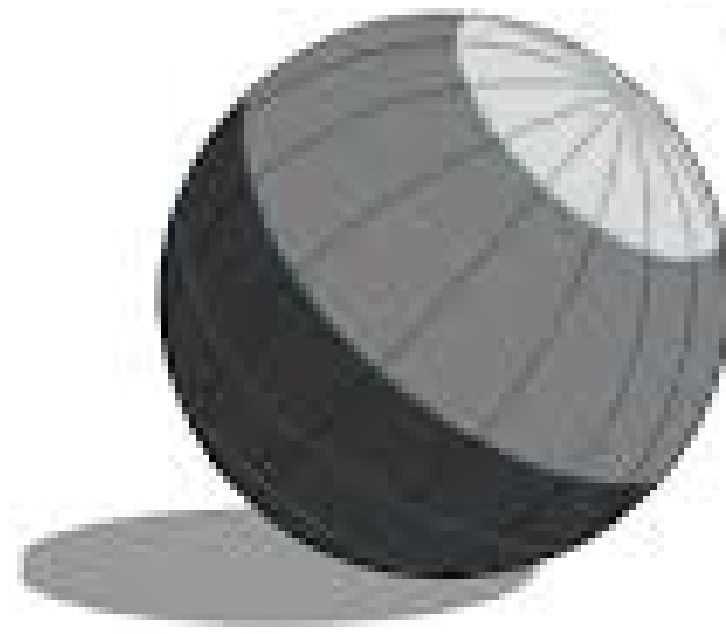


Virtual Light
Source

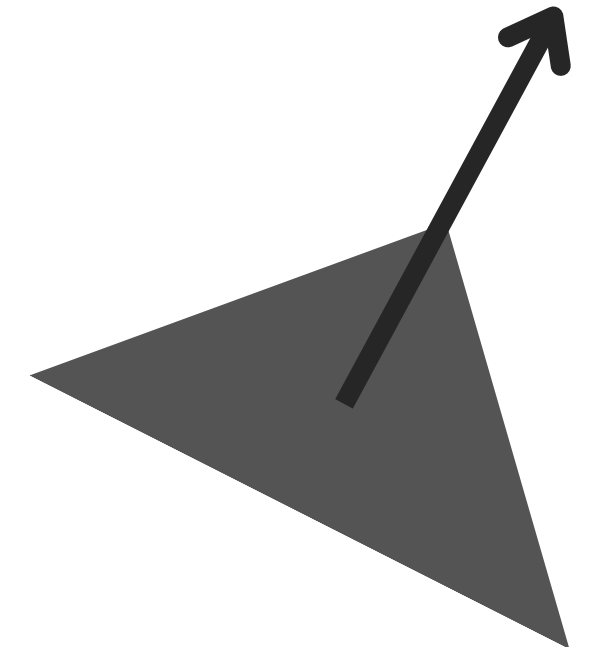
View Plane

Triangles

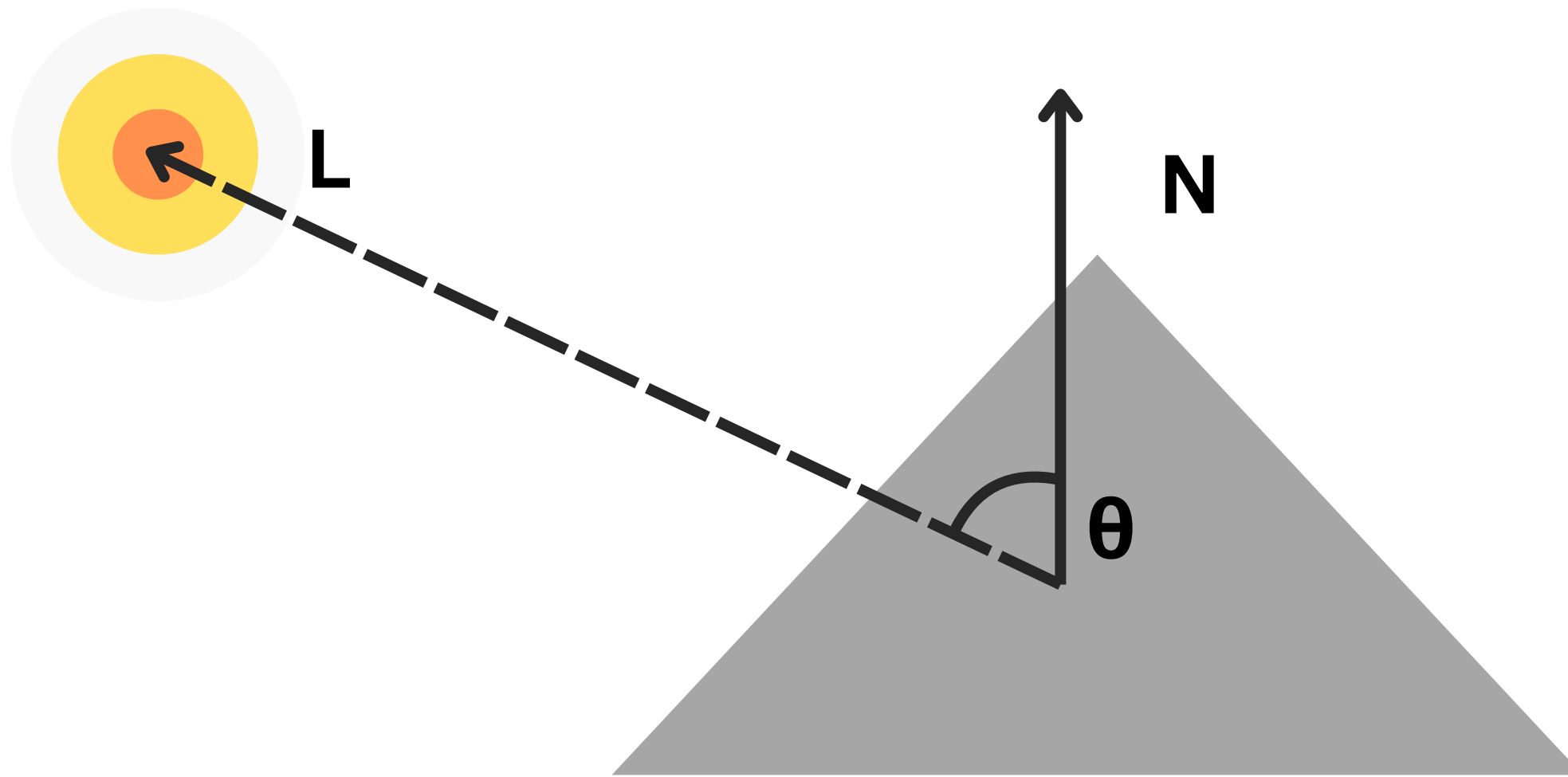
Virtual Camera



Where is it facing?



Where is it facing?



$$\cos \theta = \frac{N \cdot L}{|N||L|}$$

$$NL^T$$

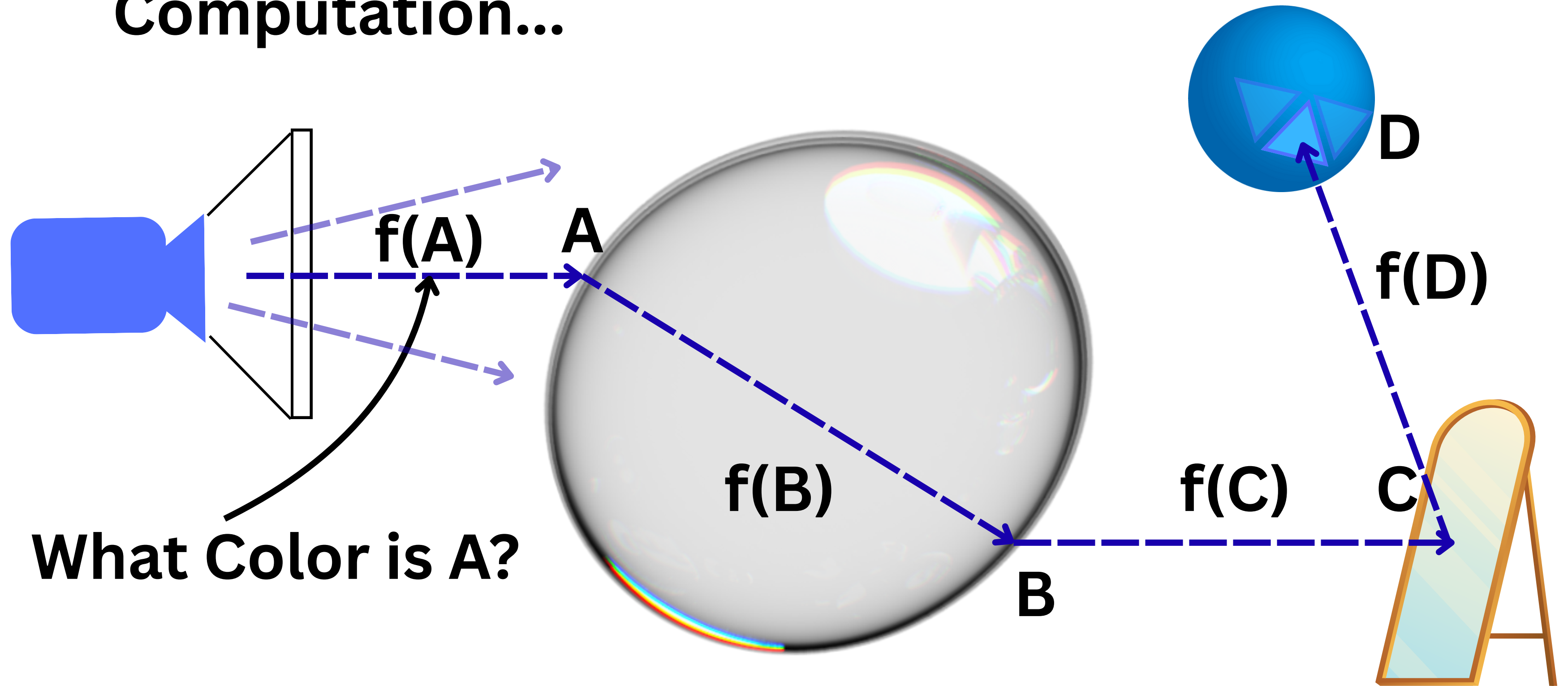
$$\begin{bmatrix} n_x & n_y & n_z \end{bmatrix} \begin{bmatrix} l_x \\ l_y \\ l_z \end{bmatrix}$$

Just One Task...

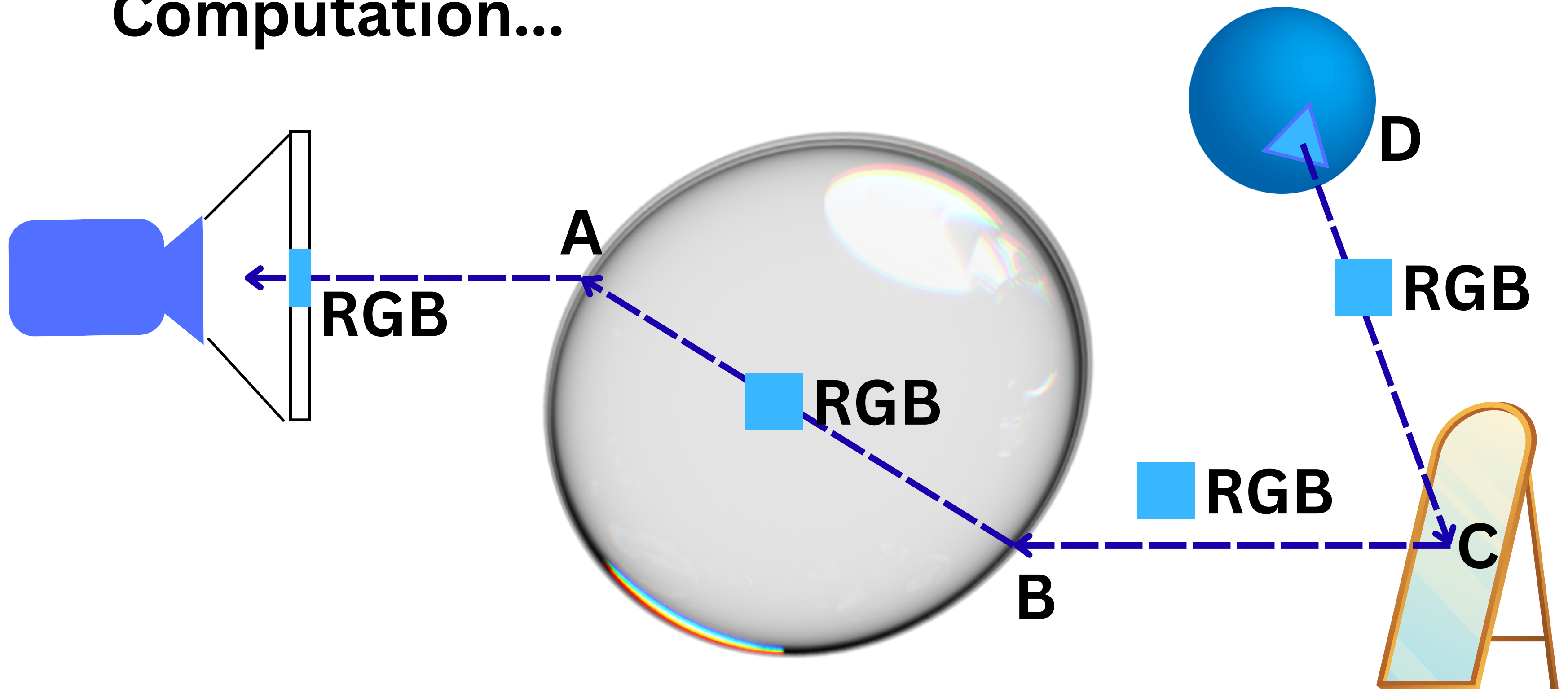
$$\begin{bmatrix} nx & ny & nz \\ nx & ny & nz \\ \dots & & \\ nx & ny & nz \end{bmatrix} \begin{bmatrix} lx & lx & lx \\ ly & ly & ly \\ lz & lz & lz \end{bmatrix}$$

Matrix Multiplication

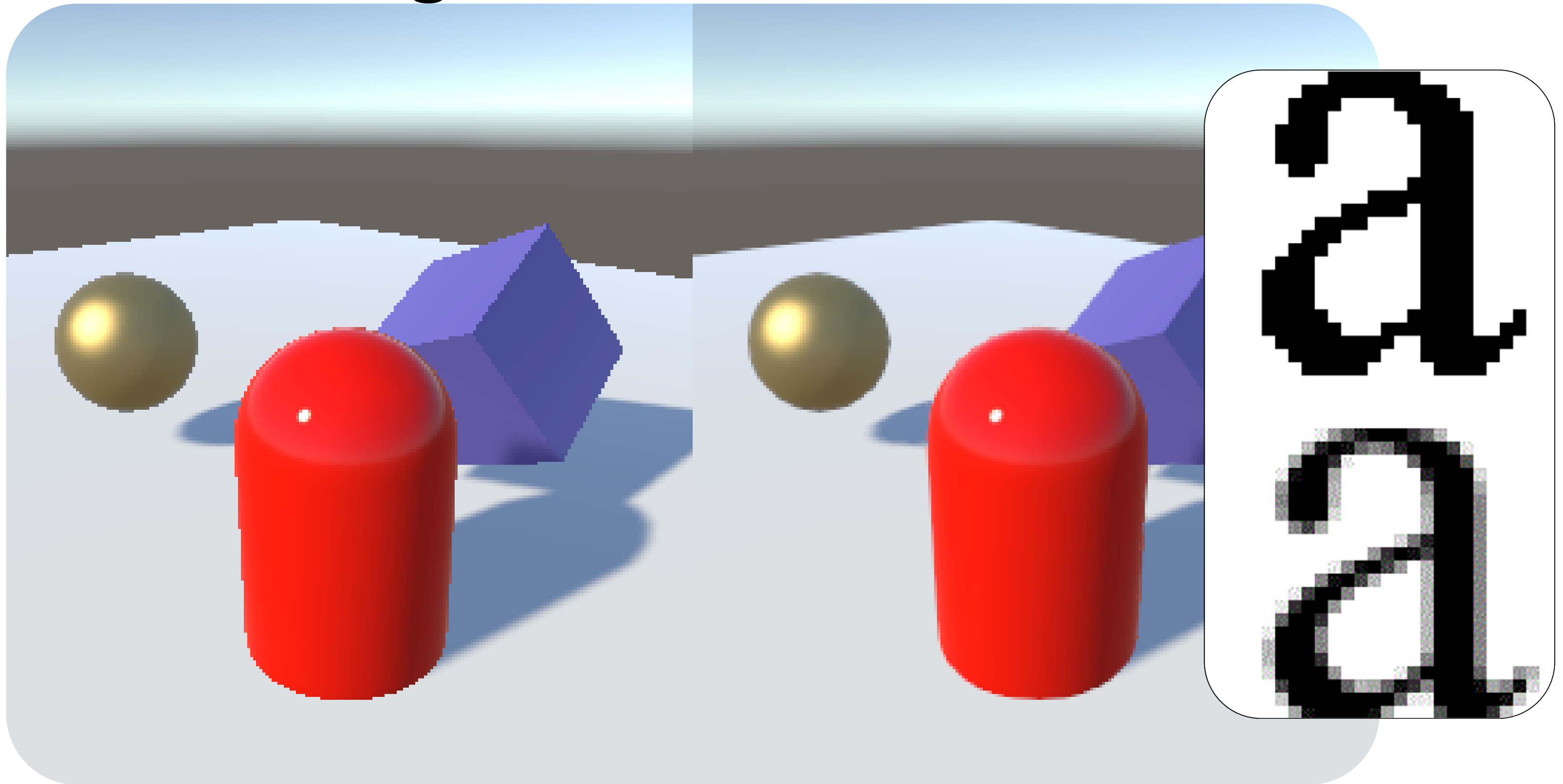
More Interactions, More Computation...



More Interactions, More Computation...



Anti Aliasing





Canva Sans

- 52 +



Effects

Animate

Position



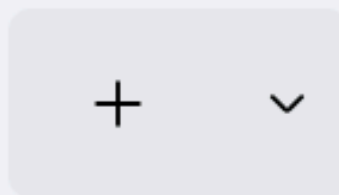
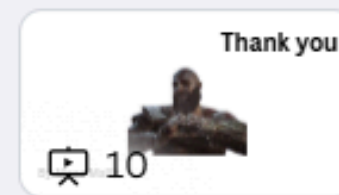
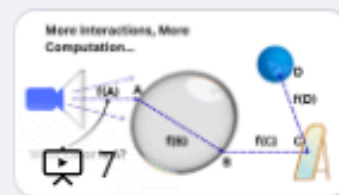
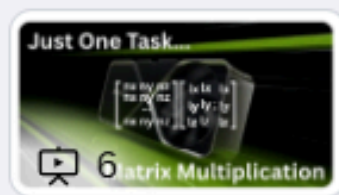
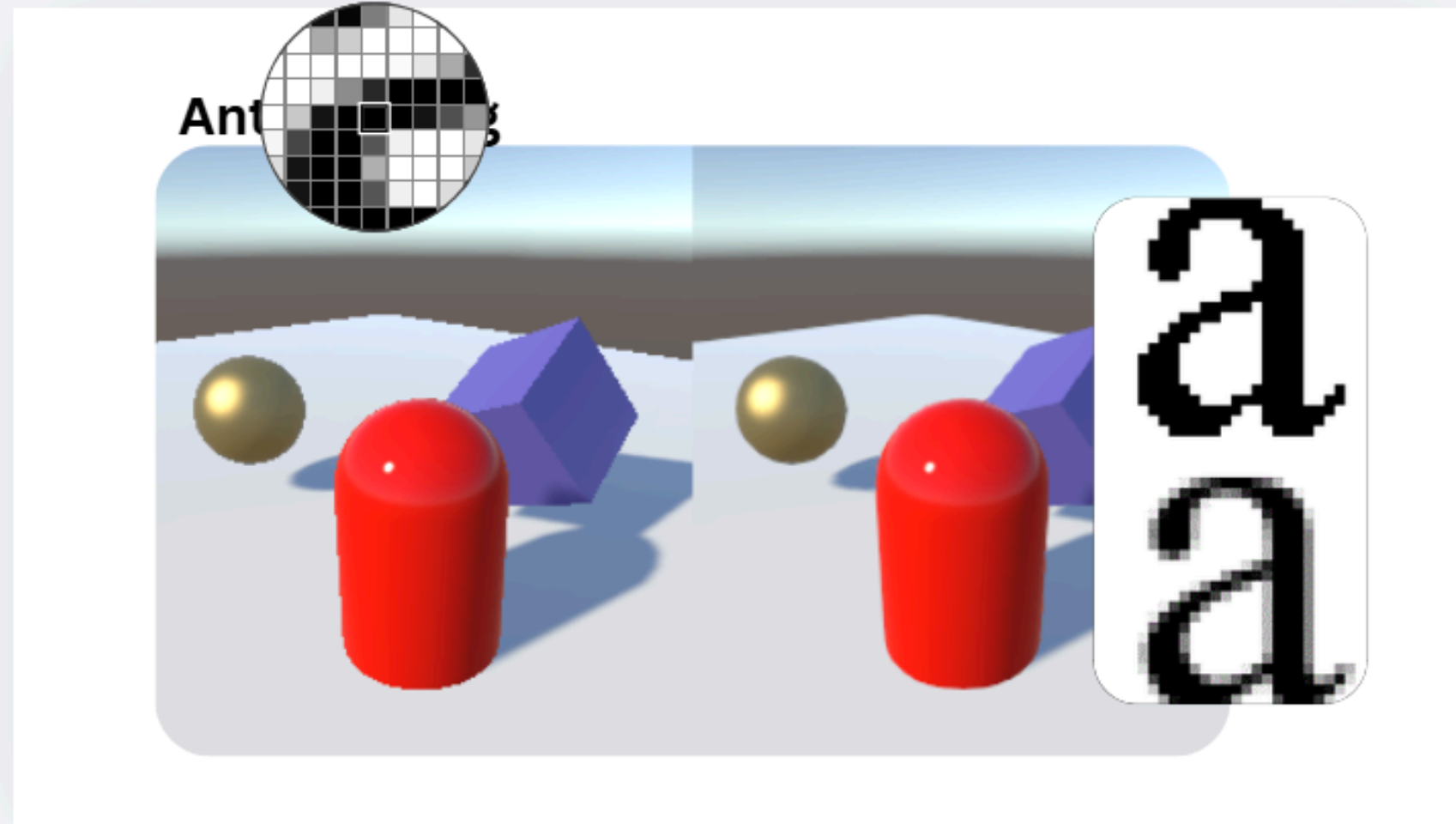
”



Gradient



See all



📝 Notes

⌚ Timer

30%

📄 Pages

9 / 10



Thank you



By Maaz Malik