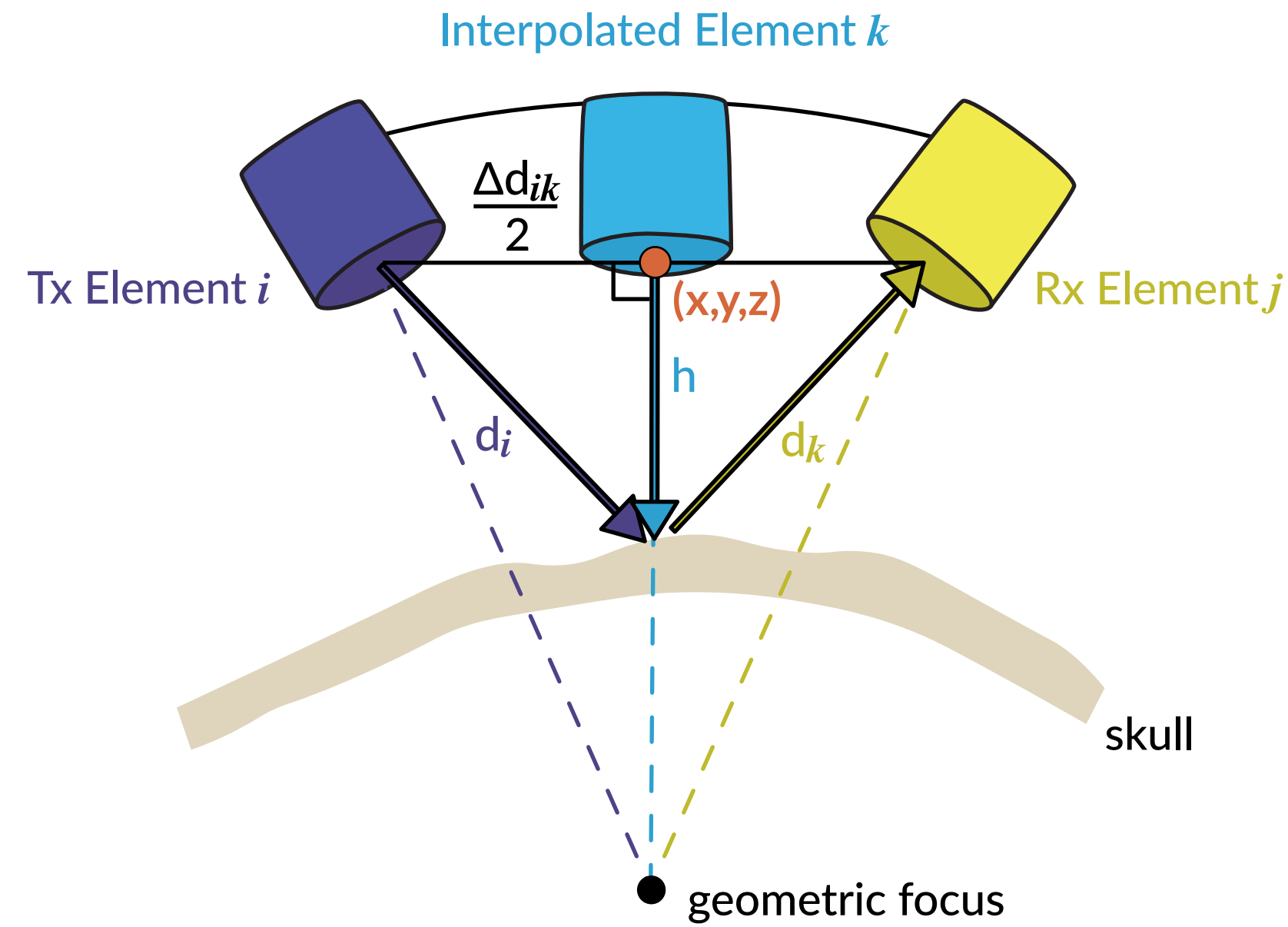


Algorithm Development: Point Cloud Reconstruction

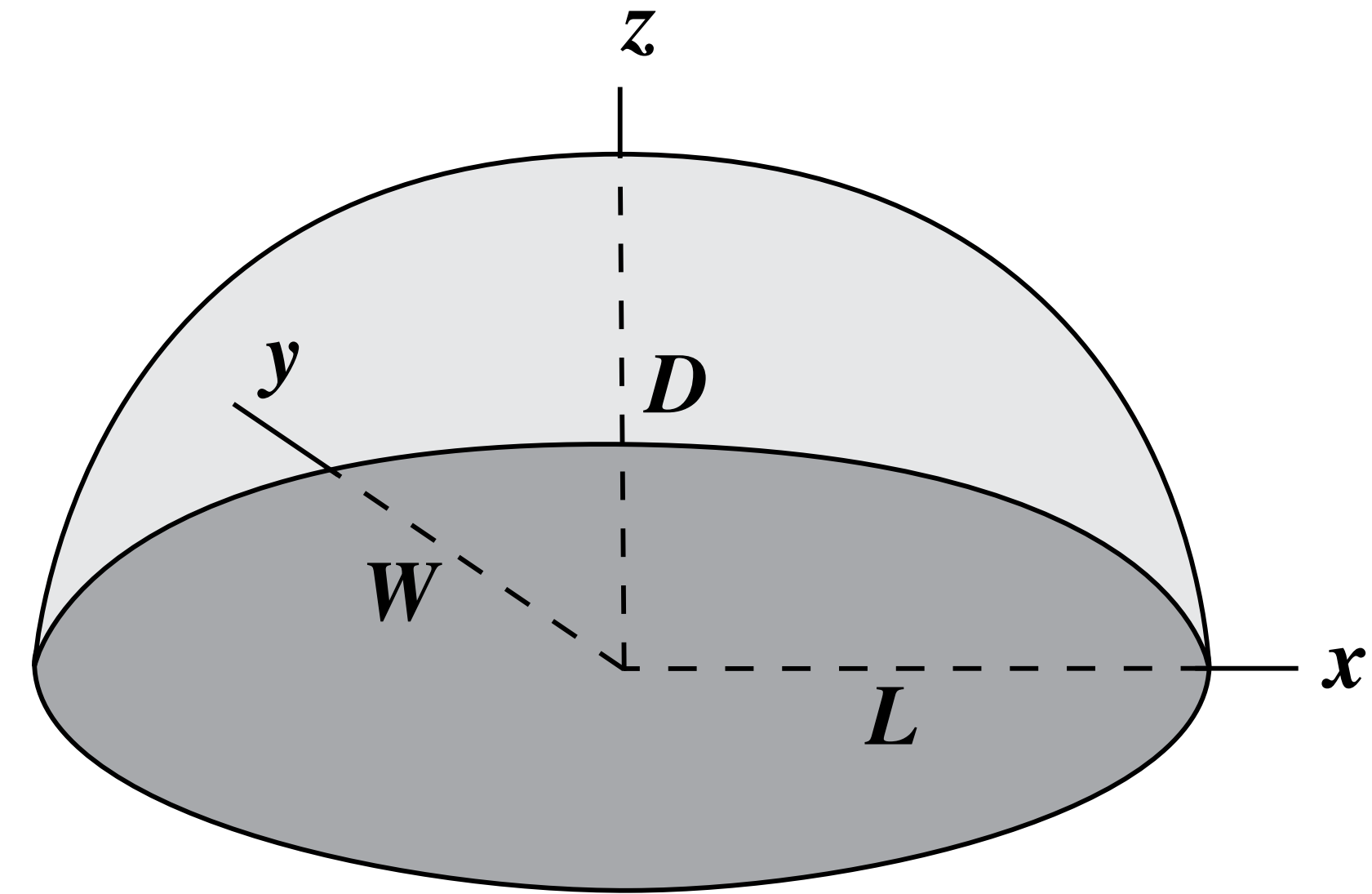


Sides of the Isosceles Triangle

$$d_i = d_k = t_{time-of-flight} c_w / 2$$

Height of the Isosceles Triangle

$$h = \sqrt{(d_i)^2 - \left(\frac{\Delta d_{ik}}{2}\right)^2}$$



Standard Form of Ellipsoid Equation

$$\frac{x^2}{L^2} + \frac{y^2}{W^2} + \frac{z^2}{D^2} = 1$$

Inward Normal Vector to Surface at point (x,y,z)

$$-\nabla f = \left\langle \frac{2x}{L^2}, \frac{2y}{W^2}, \frac{2z}{D^2} \right\rangle$$