Rotating by an angle θ around an arbitrary normalized direction (x, y, z):

$$\begin{bmatrix} x^2 + \cos\theta(1-x^2) & xy(1-\cos\theta) - z\sin\theta & xz(1-\cos\theta) + y\sin\theta & 0 \\ xy(1-\cos\theta) + z\sin\theta & y^2 + \cos\theta(1-y^2) & yz(1-\cos\theta) - x\sin\theta & 0 \\ xz(1-\cos\theta) - y\sin\theta & yz(1-\cos\theta) + x\sin\theta & z^2 + \cos\theta(1-z^2) & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

Cross product of two vectors (x_1, y_1, z_1) & (x_2, y_2, z_2) is: $(y_1z_2 - z_1y_2, z_1x_2 - x_1z_2, x_1y_2 - y_1x_2)$

Gives direction orthogonal to both vectors.