from trigonometry import sin, cos

$$M = \begin{bmatrix} S_{-}v_{1} & S_{-}v_{2} \\ S_{-}v_{2} & S_{-}v_{3} \end{bmatrix} \begin{bmatrix} cos\left(theta\right) & -sin\left(theta\right) \\ sin\left(theta\right) & cos\left(theta\right) \end{bmatrix}$$

$$v = \begin{bmatrix} \left(M_{1,1}, M_{2,1}\right)^{T} TP & \left(M_{1,2}, M_{2,2}\right)^{T} TP \end{bmatrix}$$

where

- $S_v \in \mathbb{R}^3$
- $theta \in \mathbb{R}$
- $TP \in \mathbb{R}^{2 \times 3}$