from linearalgebra import det

from trigonometry import atan2

$$\begin{aligned} \boldsymbol{a} &= \boldsymbol{v}_i - \boldsymbol{p} \\ \boldsymbol{b} &= \boldsymbol{v}_j - \boldsymbol{p} \\ \boldsymbol{c} &= \boldsymbol{v}_k - \boldsymbol{p} \\ \boldsymbol{a} &= \|\boldsymbol{a}\|_2 \\ \boldsymbol{b} &= \|\boldsymbol{b}\|_2 \\ \boldsymbol{c} &= \|\boldsymbol{c}\|_2 \\ \underline{\boldsymbol{atan2}\left(\det\left(\begin{bmatrix}\boldsymbol{a} & \boldsymbol{b} & \boldsymbol{c}\end{bmatrix}\right), \left(\boldsymbol{abc} + \left(\boldsymbol{a} \cdot \boldsymbol{b}\right)\boldsymbol{c} + \left(\boldsymbol{b} \cdot \boldsymbol{c}\right)\boldsymbol{a} + \left(\boldsymbol{c} \cdot \boldsymbol{a}\right)\boldsymbol{b}\right)\right)} \\ \underline{\boldsymbol{atan2}\left(\det\left(\begin{bmatrix}\boldsymbol{a} & \boldsymbol{b} & \boldsymbol{c}\end{bmatrix}\right), \left(\boldsymbol{abc} + \left(\boldsymbol{a} \cdot \boldsymbol{b}\right)\boldsymbol{c} + \left(\boldsymbol{b} \cdot \boldsymbol{c}\right)\boldsymbol{a} + \left(\boldsymbol{c} \cdot \boldsymbol{a}\right)\boldsymbol{b}\right)\right)}} \end{aligned}$$

where

$$v_i \in \mathbb{R}^3$$
 $v_j \in \mathbb{R}^3$
 $v_k \in \mathbb{R}^3$
 $p \in \mathbb{R}^3$