$$G\_\sigma(sk\_i) = \sum_j l_j exp\left(-\frac{dist(b_i, b_j)^2}{2\sigma^2}\right) sk_j$$

where

$$\begin{aligned}
l_j &\in \mathbb{R} \text{ the length of bj} \\
dist &\in \mathbb{R}^2, \mathbb{R}^2 \to \mathbb{R} \text{ measures the geodesic distance} \\
b_i &\in \mathbb{R}^2 \\
b_j &\in \mathbb{R}^2 \\
\sigma &\in \mathbb{R} \\
sk_j &\in \mathbb{R}^2 \text{ direction vector}
\end{aligned}$$