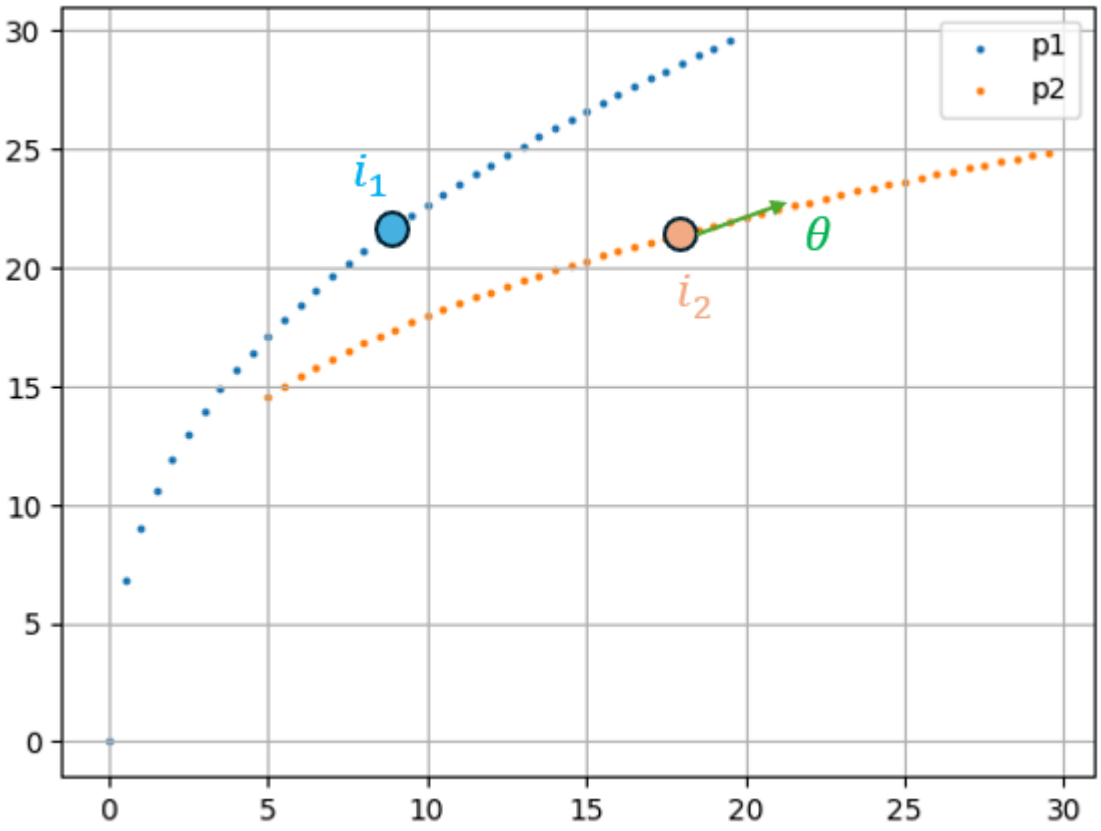

1. Index i_1 of p_1 that defines the end of tracking p_1 and the start of the blending region
2. Index i_2 of p_2 that dictates the end of the blending region
3. Degree θ of the derivative at point $p_2[i_2]$

Tomer, in your simulation, just give me θ numerically by calculating the derivative using the 3 nearest nodes

$$f'(x_0) \approx \frac{(x_0 - x_1)^2 \left(f(x_{-1}) - f(x_0)\right) + (x_{-1} - x_0)^2 \left(f(x_1) - f(x_0)\right)}{(x_{-1} - x_0)(x_{-1} - x_1)(x_0 - x_1)}$$

In c++, we will assume that p_2 is a spline, and calculate its derivative accordingly. I already wrote the function that does this.