“The idea of polynomial expansion is to approximate some neighborhood of each pixel with a polynomial.” [1]

Let *f1(x)* be a local approximation of the first frame around point *x0*, and *f2(x)* be a local approximation of the second frame around point *x0*. The task is to find the displacement vector *d* such that *f1(x - d) = f2(x)* in a neighborhood around *x0*.

References:

[1] Gunnar Farneback: “Two-Frame Motion Estimation Based on Polynomial Expansion”