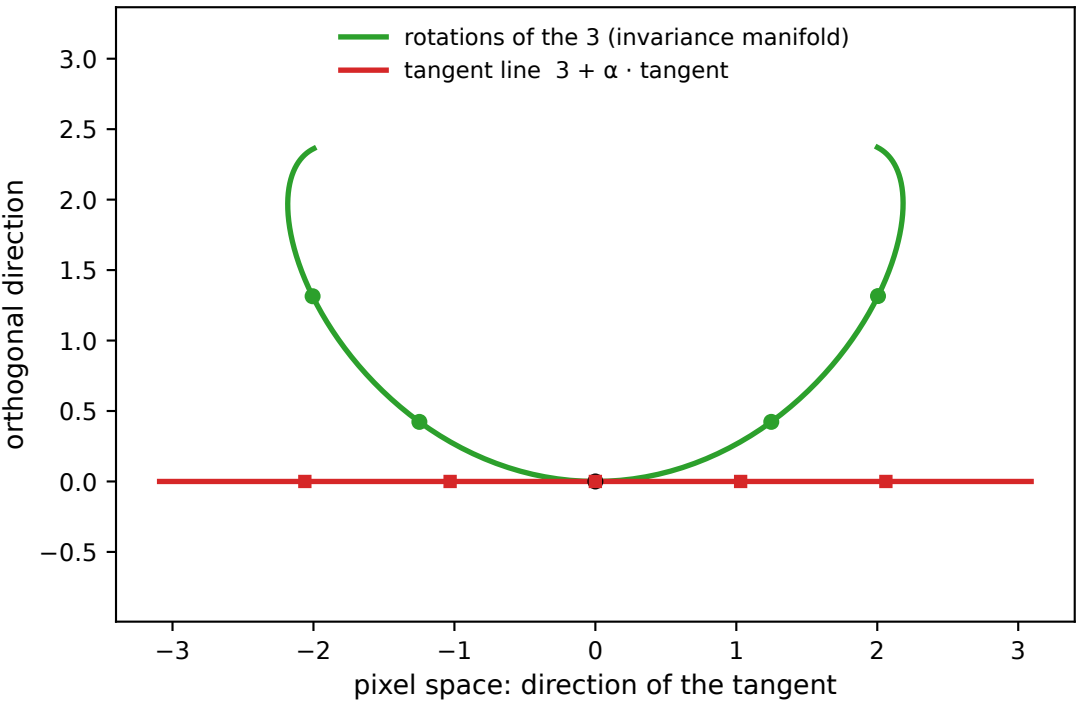
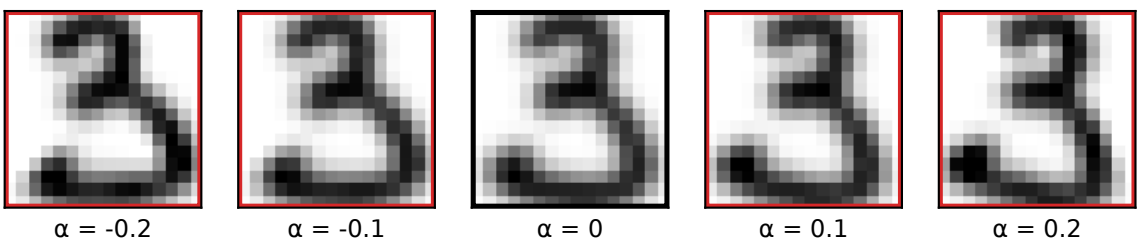
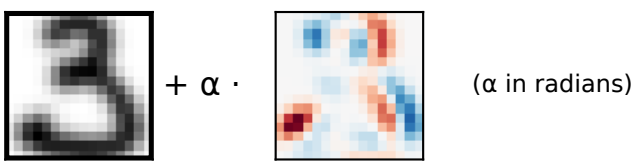

-15°
-7.5°
0°
7.5°
15°


rotations of the 3 (invariance manifold)
tangent line 3 + α · tangent
orthogonal direction
pixel space: direction of the tangent
3.0
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
−3
−2
−1
0
1
2
3


α = -0.2
α = -0.1
α = 0
α = 0.1
α = 0.2


+ α ·
(α in radians)