

# Code flow

Tamir Bendory

February 12, 2018

1.  $f(x, y)$  – a 2D image on the plane
2. We interpolate  $f$  on a new set of points  $(\tilde{x}, \tilde{y})$  to get  $\tilde{f}(\tilde{x}, \tilde{y})$ . These set of points should fit the t-design points on the sphere after the projection. We implicitly assume that the image is smooth so the interpolation is exact.
3. Projection on the sphere. The new function  $f_s(\theta, \phi)$  is defined according to the t-design.
4. Computing  $\hat{f}_{\ell, m}$  – the spherical harmonics of  $f_s$ .
5. Computing the invariants to get  $(\mu, P, B)$ .