

Total Variation Blind Deconvolution



observed input f



solution u, k

- **task:** minimize the energy

$$\min_{u,k} |u * k - f|_2^2 + \lambda |\nabla u|_1, \text{ s.t. } k \geq 0, |k|_1 = 1.$$

- **required:** clean & efficient CUDA implementation of convolution (and its transpose) with various boundary conditions/modes
- MATLAB reference implementation available:
<http://www.cvg.unibe.ch/dperrone/tvdb/index.html>

Supervisor: Bjoern

Reference: "Total Variation Blind Deconvolution: The Devil is in the Details", Perrone, Favaro, CVPR 2014