

Solutions for Chapter 2 of *Natural Image Statistics*

Yimeng Zhang

June 29, 2014

I Mathematical Exercises

I.1 2.6.1

Boring. I guess only some simple variable substitution is needed.

I.2 2.6.2

This is calculating $O(x, y)$ in (2.1) when $I(x, y)$ is impulse. Clearly, only the term $W(x_* = -x, y_* = -y)$ will contribute to $O(x, y)$ (also $H(x, y)$). So $H(x, y) = W(-x, -y)$.

I.3 2.6.3

I think to get ϕ , atan2 is a must. Division eliminates a degree of freedom to make the result ambiguous.

2 Computer Assignments

Seems boring...