(a) neighborhood sampling   (b) add background information
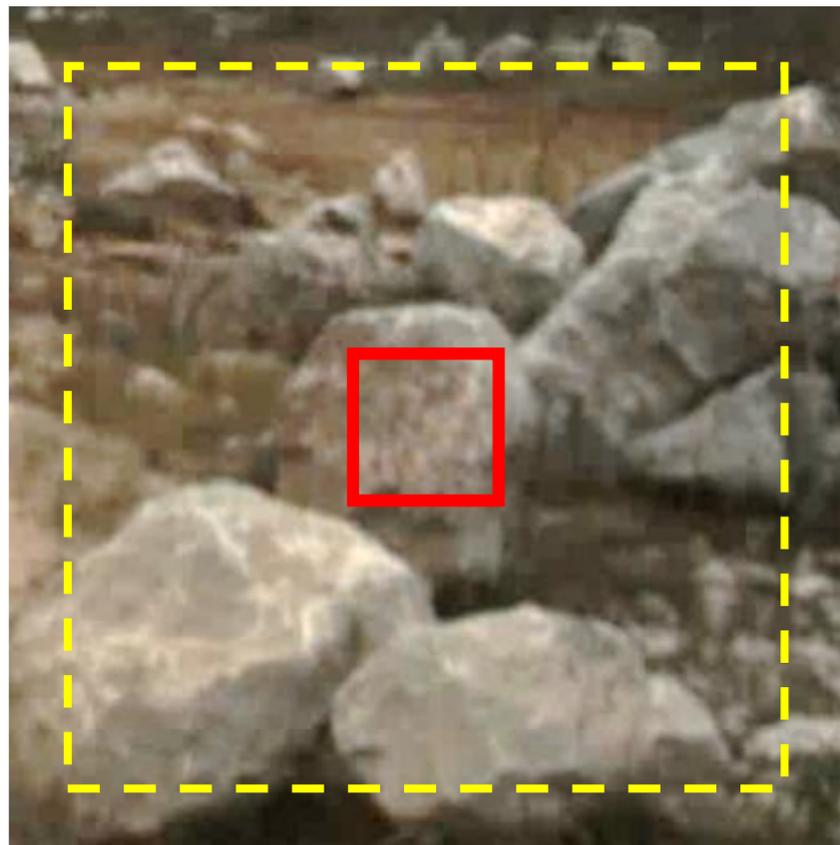
resize & concat