IDroo Abc $f()$ *Untitled board*

Natural linear program for discrepancy of pixels.

Solve for the variables x_i's.

x_i: -1 (red), or +1 (blue) for each color of pixel i.

find a feasible solution with the contraints:

for each curve S: \sum_{pixel i in S} x_i \leq \lambda
\sum_{pixel i in S} x_i \geq -\lambda

where \lambda is the discrepancy that we want to have.

For example, by the shifting argument, we can assume that there are only O(n^2) curves S for which we have to write the above inequality.

So it will take O(n^3) time to write the integer program.

Just because of O(n^2) different possibilites, we know that eps-approximations can give you a random sample that works, of size O(1/\eps^2).

To go below that - in other words, O(1/\eps^{4/3}) - we have to solve the discrepancy problems.

Right now, we don't see how to do that efficiently.

50%