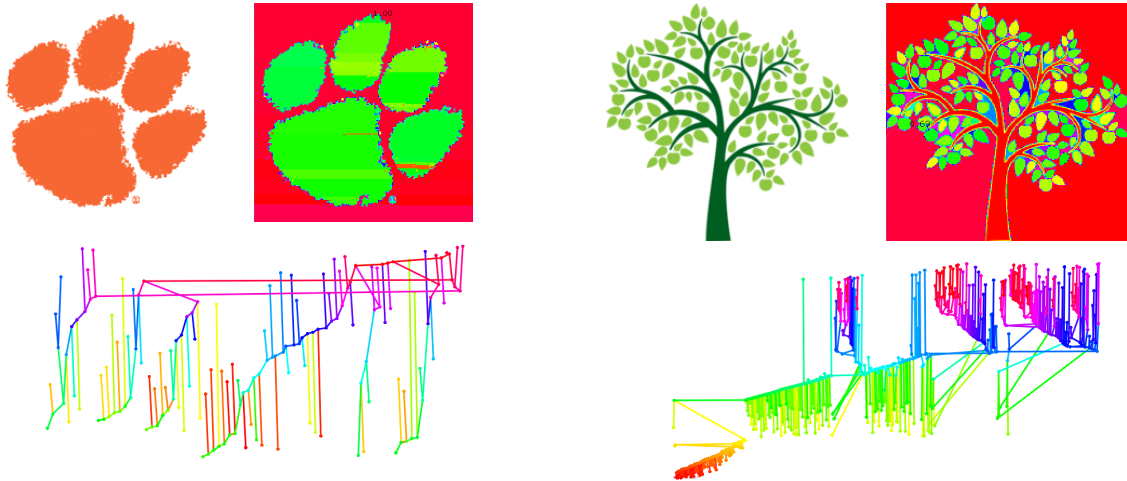


Seam Carving vs. Contour Tree:

## Topology-Aware Scalar Data Resizing?

VC Lunch

Friday April 1st, 2016



Hi everyone! Friday's my turn to present at VC lunch this spring. Here allow me to provide you a "perspective" overview:

In the first half, I will (or be trying to) give us tangible knowledge about:

- The concept of *Contour Trees* (*Reeb Graphs* for manifolds) for scalar field topology, and **how they'd become useful**.
- Quick backup on *Seam Carving* (check out: [\[link\]](#) video demo of the 2007 paper)
- Our question: can the "content-aware" seam carving also be "topology-aware"?

Then we'll enter a game session: **"Beating Dachao in Seam Carving"**

Effectively, participants will compete against Dachao by carving as many seams as possible without causing any change in the contour tree (i.e. the tree is the benchmark). If you carved more seams than I do, there will be a present for you!

In the second half, I'll summarize how we've done a good/bad job in preserving the topology when removing seams, and especially our current plan in approaching this problem.

We'll see how much time available as the presentation goes to invite multiple audiences to play the "game", as well as any questions come up along the way. Hope to see you tomorrow!

– Dachao