Deep Inference
Free composition of proofs → locality

Problem with the sequent calculus

Natural solution
Cut independent from contraction

Free composition

Localities of cut

Locality of (CA) contraction

Next: How to recover and generalise Gentzen systems — splitting (a decomposition)

Class Prop. Logic

Open problems at the end of general.

Deep Inference
Locality → topological controls normalisation

Streamlining in propositional classical logic

1. Take a derivation D:

2. Pick the normaliser for u:

3. Plug u into the holes, Voila!

Even better: cut elimination trivially confluent — next, the sequent method

General cut elimination (streamlining)

Current research:

1. Make decomposition ‘universal’
2. Make splitting logic independent of subatomic logic

Understanding cut elimination

Decomposition: push (u) contractions

ATOMIC FLOWS

Cut elimination = no sandbagging

Sound transformations

Contraction vs. cut:

Two mechanisms are independent