

MAS.S66

Computational Wireless Sensing

Lecture 7 (part 2):

MIMO & Writing Related Work



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MIMO/Beamforming

- Transmit & receive beamforming
- Beamforming & diversity gains
- Precoding & MIMO
- Why can't we use traditional beamforming inside the body?
- What is the expected gain in distance?

How to Write Related Work Section (in CS systems)?

Pass 1: Be extensive, put thoughts down, write about areas make sure to cover your bases, any Google scholar article that might be relevant

Pass 2: Two ways of writing related work

Approach 1: story/context. Give me an idea of how the work started and how it evolved

Approach 2: Past work falls in these two/three main areas. In contrast, we are the first to do XXX. Then go in details about these areas (ideally, same as approach 1)

Do's and Don'ts of Related Work

Do's

Be comprehensive

Say how your approach is different/
better from a body of work

Elucidate the differences between
your work and prior work

Leave out important related work

Focus on fundamental differences,
and why your technique is
intrinsically different

Dont's

Make it a laundry list (group,
instead)

Restate your methods or their
details

Go into a lot of detail about all
related work

Reinterpret how related work could
be applied to your problem domain

Gloss over important differences
assuming the reviewer will
automatically “get it”

Where should the related work come?

It might be in the beginning or end of the paper —
depending on how well-known the area is to the
community

Sometimes you might need to divide into background/
primer and related work