How to Read Papers

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credit: You Are How You Read by Dr. Harry Shum

Why Reading a Research Paper?

- ▶ **My advisor/classmate** tells me to read this paper
- ▶ This is **on the required reading list** for this course
- ▶ This is **referenced from the paper** I am reading

- ▶ I need to **write a summary** about this paper
- ▶ I need to **do a presentation** about this paper in my class
- ▶ I need to **write a survey** about sth related to this paper

- ▶ I need to **implement** some parts of this paper
- ▶ I need to **review this paper** for a conference or a journal
- ▶ I need to **learn from this paper** for my future writing

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How Do You Approach Reading Papers?

- ▶ Quick skimming
- ▶ Critical reading
- ▶ Creative reading

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Critical Reading

Be suspicious!

Critical Reading

If the authors attempt to solve a problem,

- ▶ are they solving the right problem?
- ▶ are there simple solutions not considered?
- ▶ what are the limitations of the solution?

If the authors present data,

- ▶ do they have right data to substantiate argument?
- ▶ do they gather it in the correct manner?
- ▶ do they interpret data in a reasonable manner?
- ▶ are there other more compelling datasets?

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- Quick skimming
- Critical reading
- *Creative reading*

Creative Reading

Positive thinking!

Creative Reading

▶ What are the good idea in this paper?
▶ Improvements that make important practical differences?
▶ Applications/extensions that the authors might not have thought of?
▶ Can they be generalized further?

Reading is Modeling

To build a cognitive model of the author

- ▶ Take care of who the author is
- ▶ Read other works by the same author

The thought of the author is more important than the tricks

- ▶ What to learn: Thoughts>Methods>Tricks

To refine the cognitive model of yourself

- ▶ Figure out what you need to improve to align with the cognitive model of the author
- ▶ Simulate the mind of the author in your mind