Poster Presentation Tips

Administrative

- Grades for Assignment 3, 4 out
- Grades for Quiz 4 out
- Grades for Milestone out
- A5 due 2 days ago

The rest of the course:

- Quiz 5 today!
- Poster Session on Thursday
- Grade reports posted to gradescope friday/saturday
 - Time to check over your late days/ any extensions etc

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Logistics

- 1. Arrive in lobby of allen building
- Pick up poster from us (send by tomorrow at noon) or bring your printed poster
- 3. Set up poster board and poster stand
- We will come around and assign you group 1 or group 2
 - a. Group 1 presents poster in first half and looks at other poster second
 - b. Group 2 looks at posters in first half and presents second
- 5. In either the first or second half of the session, you will stand by your poster and explain your project to us/ other students

How to make a good poster/presentation

Start with a good presentation, make the poster to match

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30 - 60 second overview

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- 1. <u>High level intro</u> (10 seconds)
 - 1. What is the motivation for your work? What is not done yet that you are solving? Make sure you set it up for why your project is necessary.
 - 2. Explain your approach at a high level

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- 2. **Details of your method** (15 25 seconds)
 - 1. What are you actually doing specifically?

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- 2. <u>Details of your method</u> (15 25 seconds)
 - 1. What are you actually doing specifically?
- 3. **Results** (15 25 seconds)
 - 1. What experiments did you run? What did you find?
 - 2. How does this show that you solved the problem that you set up?

How to make a good poster/presentation

Start with a good presentation, make the poster to match

How to make a good poster?

Your poster is a tool to help you with your presentation

You don't want just all the text of everything you are planning on saying aloud

Go through your presentation script and see which of the points could use a visual component

- A diagram of your model to reference as you are explaining it?
- The graph of your results?

How to make a good poster?

Flow of visual elements in poster matches flow of presentation

- 1. <u>High level intro</u> (10 seconds)
 - 1. What is the motivation for your work? What is not done yet that you are solving? Make sure you set it up for why your project is necessary.
 - 2. Explain your approach at a high level
 - **Details of your method** (15 25 seconds)
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 - Results (15 25 seconds)
 - 1. What experiments did you run? What did you find?
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Generating customized prompts for zero-shot image classification

Sarah Pratt¹ Ian Covert¹ Rosanne Liu^{2,3} Ali Farhadi¹

"A platypus looks like a beaver with a ducks bill"

LLM

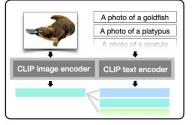




Google DeepMind



ML Collective



LLM

CLIP image encoder CLIP text encoder

What does

look like?

a platypus -



Handwrite custom templates ("a photo of a ____") for each dataset and fill them in with each category.

- X Templates contain no specific visual information
- Requires many hand-written templates (80 for ImageNet)
- Contains information about data distribution ("a black and white photo of _____")

CuPL Prompts (ours):

Customized **P**rompts via **L**anguage models

Use an LLM to generate many different descriptions of each category in the dataset.

- Higher accuracy as prompts now can contain many important visual features (color, environment, subparts ...)
- Little to no prompt engineering for new datasets
- Doesn't use prior knowledge of data distribution

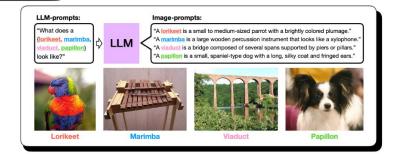
Highest Accuracy: Custom questions to query LLM for each dataset. No prompt engineering: Uses the same 3 LLM queries for every dataset

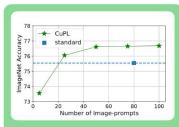
ImageNet						
	Standard	CuPL (Full)	CuPL (Base)			
Accuracy	75.54	76.69	76.19			
# Hand written	80	5	3			

beaver with

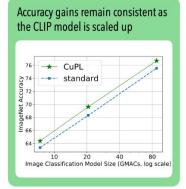
Goldfish are small orange fish

Average across 15 benchmarks				
1	Standard	CuPL (Full)	CuPL (Base)	
Avg Accuracy	73.43	74.8	74.15	
Total # Hand written	175	45	3	





More descriptions lead to higher accuracy and LLMs can generate many descriptions without additional human effort







Standard

75.54

Accuracy

Hand written

ImageNet

CuPL (Full)

76.69

CuPL (Base)

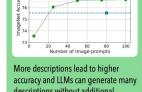
76.19

3

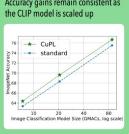
CuPL (Base) No prompt engineering: Uses the same 3 LLM queries for every dataset Average across 15 benchmarks

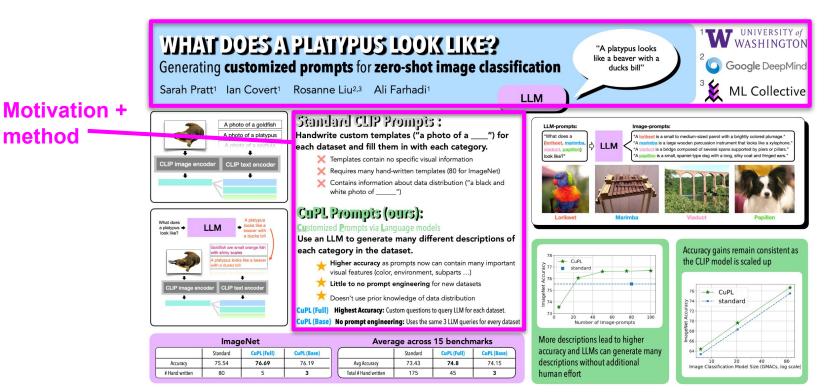
Doesn't use prior knowledge of data distribution

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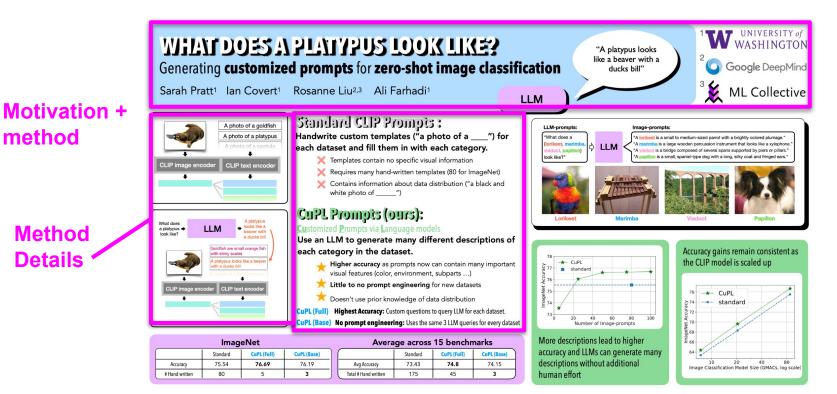


descriptions without additional human effort





method



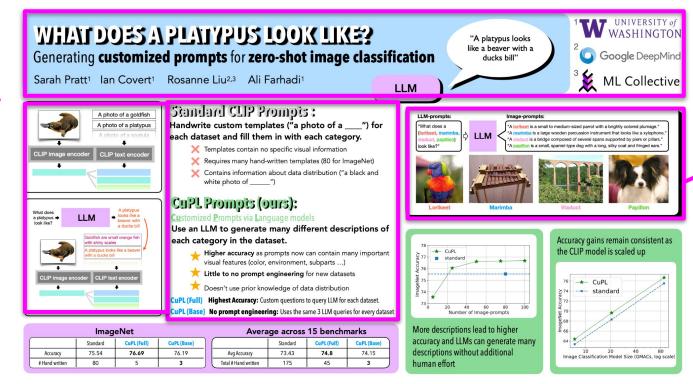
method

Method

Details

Motivation + method

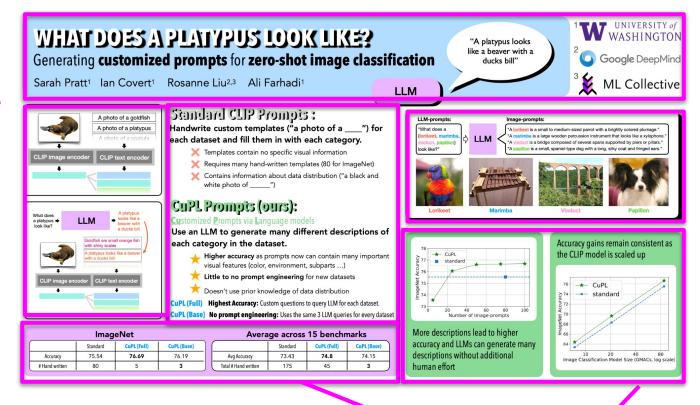
Method Details



Qualitative Results

Motivation + method

Method Details



Qualitative Results

Quantitative Results