

# Identifying Promotional Content on Instagram

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# Roadmap

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01

# Business Context



# Business Problem

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- Instagram wants to increase ad revenue
  - How can we increase ad sales?
    - Identify users that promote by the tone of their words
    - Recruit users to post promotional material
- What makes the text of a post promotional?



# 02 User Persona



# User Persona

AGE: 25 - 35  
GENDER: Female

- **Motivations:** wants to increase influence
- **Behavior:** has not used Instagram's ad platform much but writes promotional messages

JOB: Accountant

HOBBIES: Sports and social media



03

# Data Pre-processing



# Data Collection

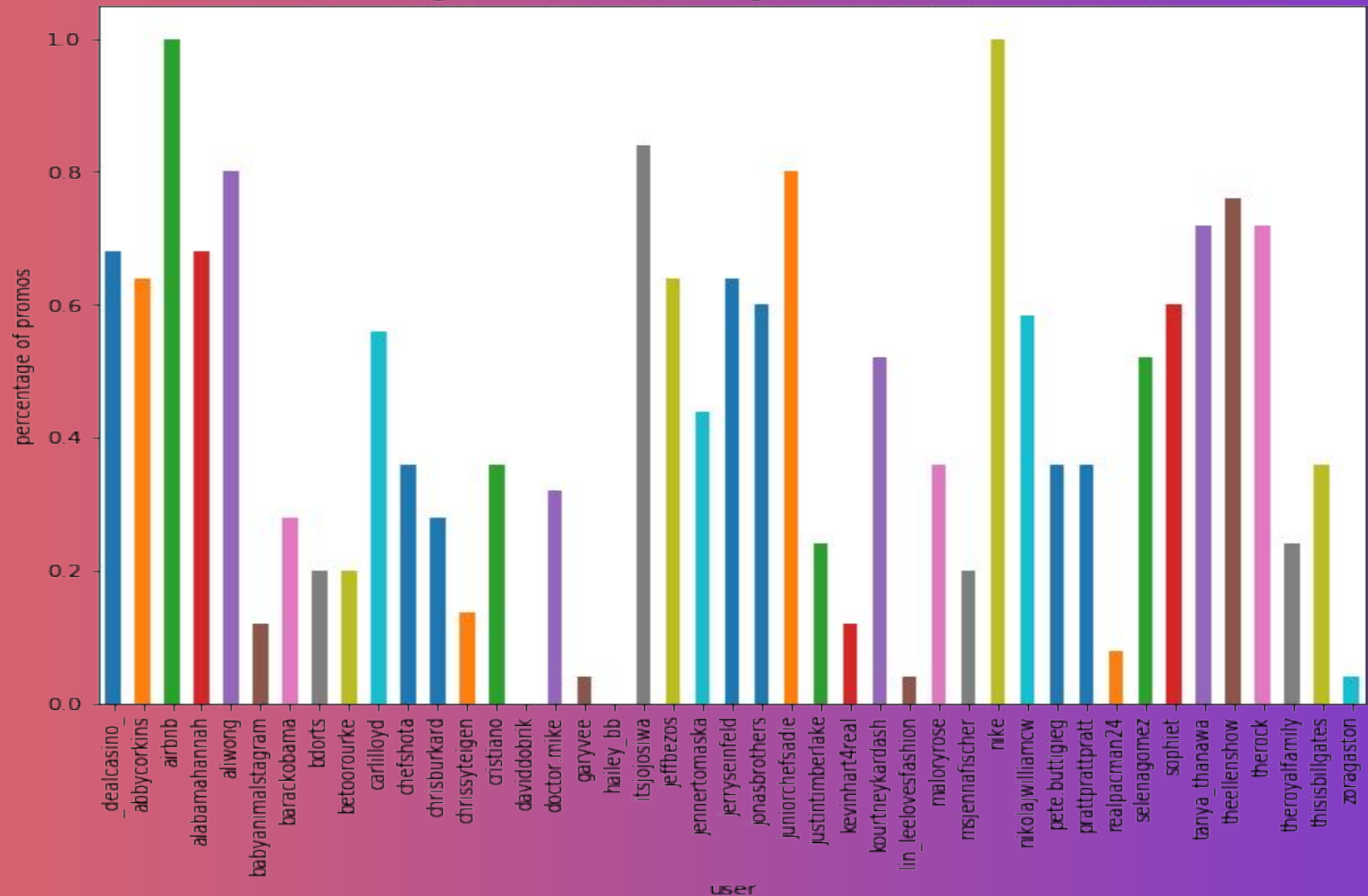
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- Took ~25 most recent posts from 50 different instagram users resulting in a data set of 1.3k captions
- Used only the initial comment by the poster
- Hand labeled as promotional or non-promotional





Percentage of Promotional Instagram Post From Last 25 Posts



# Hand Labeling

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## PROMOTIONAL:

- A call to do something
  - Buy, checkout, come, vote, etc
- A tag/link to a company

## NON-PROMOTIONAL:

- Thank you for doing something
- “Self promotion” but with no tag/link
- Expressing values that may make the audience like you



# 04 Modeling



# Modeling

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- Train and validate on 1065 posts by 40 users
- Constructed a keras neural network
- Evaluated performance on 248 post by 10 users
- Accuracy of our model is 70%



05

# Evaluation & Product Demo



What did the model get  
right and wrong?





joannagaines • Follow



do about it. I want us to hit that \$500K mark by midnight tonight. So I will be personally matching all

#ChipInChallenge donations made between now and midnight. ON TOP OF THAT, I'll also be matching that amount in the form of a donation to the #BravelikeGabe Foundation in Gabe's

honor. That is 3x the power of your generosity in the fight against cancer.. and all YOU need to do is donate whatever you can to the

#ChipInChallenge (link in bio) between now and midnight CT. I'll take care of

the rest. Together, we're going to fight for those who are fighting for just one more day. This is for those precious kids at St. Jude.. we are pulling for you! And to my beautiful friend Gabe.. we love you and we are here for you every step of the way.

Labeled: Promotional  
Predicted: Non-Promotional



joannagaines • Follow



joannagaines Y'all really stepped up to the #ChipInChallenge and together we raised over \$2 million for the fight against cancer! We go to @StJude next week and can't wait to see the precious kids and present them with a check for \$1.49 million from all of you. On top of that, \$512,000 is going to our dear friend Gabe's foundation, @bravelikegabe. She will forever inspire us to be brave. ❤️ Thank you ALL for chipping in with us! #NotTodayCancer

1w

Labeled: Non-Promotional  
Predicted: Non-Promotional





juliahengel ✓ • Follow



Paid partnership with [americanexpress](#)  
Carmel-by-the-Sea, California



juliahengel ✓ Woke up early to head into Carmel before spending the afternoon at the [#USOpen](#) and stopped by Carmel Valley Coffee Roasting Co for some coffees and a beach walk. Now through Sunday (from 6-10am) if you use your [@americanexpress](#) Card, you'll get a complimentary pastry! Another reason to always [#shopsmall](#) [#amexlife](#) [#amexambassador](#) [#ad](#)

4d

Labeled: Promotional  
Predicted: Non-Promotional



janetmock ✓ • Follow



janetmock ✓ VALENTINO

2w

Labeled: Promotional  
Predicted: Non-Promotional







**cultivitae** • [Follow](#)  
Los Angeles, California



**cultivitae** Oops I am a day late... happy new year!!!! 🥂🥂🥂 Chris and I spent ours with in n out, watching Wonder, and creating vision boards. It was an introverts' dream. 😍 364 days left ... let's create magic!!

Labeled: non-promotional  
Predicted: promotional



**liamhemsworth** • [Follow](#)



**liamhemsworth** Happy birthday to my sweet girl. You're more precious than ever. So thankful to have you in my life. ❤️

29w

Labeled: non-promotional  
Predicted: non-promotional



06

## Next Steps



# Future Exploration

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- We used a very small segment of instagram. More data would likely lead to a better model
- More input on the labeling
- More classes for classification such as fundraiser, self-promotion, etc
- Use of pre-trained models like BERT or ULMFiT



# Questions?

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