Generating Product Descriptions from User Reviews

Slava Novgorodov   **Ido Guy**   **Guy Elad**   **Kira Radinsky**
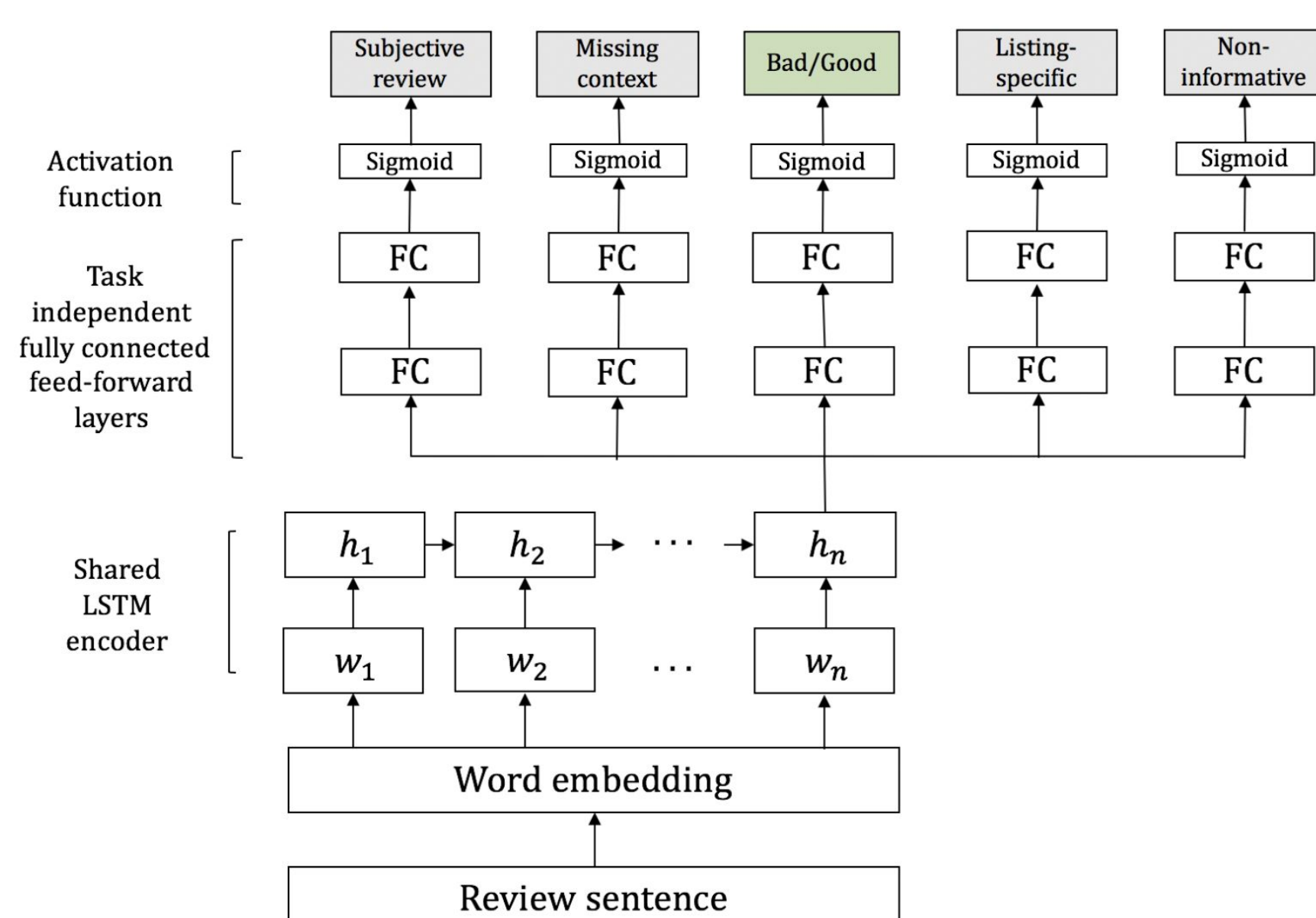
Motivation

- E-commerce websites have many products without descriptions (it was shown that descriptions have a substantial influence on user behavior)
- However these products are purchased and reviewed by customers.
- Reviews are often reflect the perspective of those who have already purchased the product and potential buyers tend to trust reviews much more than they trust seller provided content.
- **Goal**: automatically generated description

Algorithm

- **A three steps algorithm.**
  - Input: product reviews and desired description length
  - Output: automatically generated product description

- **The steps are:**
  - Sentence filtering
  - Diversification
  - Top-k sentences selection

LSTM-MTL

Pre-trained word embedding, and Bad/Good and 4 other tasks (Subjective, …)

Examples

Domain	Product	Description
Fashion	Socks	Perfect thickness for shoes or boots. Extra padding at toes. The quality is excellent. Easy to handle and very comfortable. No shrinkage in washer or dryer.
Fashion	Jacket	The cuffs on the sleeves are adjustable, which is perfect for keeping wind out when biking or for just a tighter fit around your wrists. It's very soft on the skin. The zipper works easily. The material is well made and the hood tucks away easily and hides well when not needed. Folds up to fit in bag.
Motors	Scratch removal system	Great for minor to moderate damage. Use it for removing scratches from your car. There is enough for several repairs. Coat twice for extra protection. Very recommended after wax.
Motors	Motor oil	It works well and lasts for a reasonable period of time. The oil is still very clean when changed. Engine runs smoother and pulls better. Good oil for any motorcycle. This oil is made for high temp engines.
Toys	Magnetic cubes	Works for all ages – toddlers to teens. The letters are a great addition and a fun way for young kids to learn their alphabet. Very colorful and high quality magnetic toy! Very easy to build. Perfect for family time.

Champion 3500-Watt Portable Generator

Description: Super dependable and really quiet. Very easy to use. Runs without issues at constant voltage.

Overall description quality:
○ Very Bad   ○ Bad   ○ Average   ○ Good   ○ Very Good

	Very Bad		Average		Very Good
Readable:	○ 1	○ 2	○ 3	○ 4	○ 5
Informative:	○ 1	○ 2	○ 3	○ 4	○ 5
Objective:	○ 1	○ 2	○ 3	○ 4	○ 5
Relevant to the product:	○ 1	○ 2	○ 3	○ 4	○ 5

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