

OpenAI Prompt Engineering for Generating Product Image **from Customer Reviews**

PART 1. Product Selection and Customer Review Data Collection

1. Dinosaur Plushie



Rationale:

We chose this product because it had a high amount of reviews (1,277) to use in our prompts, and a solid amount of textual content to use in our analysis. Also it's cute.

Textual Content

- Product Description:
 - Product Title: VHYHCY Stuffed Animal Plush Toys, Cute Dinosaur Toy, Soft Dino Plushies for Kids Plush Doll Gifts for Boys Girls (Green, 9 Inch)
 - SUPER CUTE DINO PLUSH
 - High-quality dinosaur soft toy with cute expression
 - This plush stuffed animal is firmly sewn with the highest quality polyester fiber
 - Can also be used for decoration of family bedroom cars, etc.
 - **【Color】**Active Green

- **【Soft Material】** Cute dinosaur toys tufted with high quality PP cotton, which does no harm to kids and parents. When you hold it in your arms, you will feel comfortable and elastic, with a smooth feel and delicate texture.
- **【Cute Animal Design】** Cute cartoon animals make it more attractive during playing and sleeping. Great for dino lovers, for kids, tee girls, girlfriends and sisters.
- **【Best Gift Choice】** Dinosaur toys is the best gift for to your lovers on Valentine's Day, also a perfect gift for child, family or friends. The plush toys will be a surprise! Amazing gift!
- **【Best Size】** Mini & Cute size. For both boys and girls our cute Dinosaur Doll is in the perfect size for them to play with. Easy to carry and play and you can also place it as an ornament on sofas, cars, bedrooms, children's rooms, etc.
- **【What You Get】** 1 x Super Cute Dinosaur Plush Toy. Please do not hesitate to contact our customer service team to resolve any questions or concerns. Our goal is always your complete satisfaction!
- **Customer Reviews:**
 - It's super soft and squishy. It was a birthday present for a friend, and she loved it
 - Cute plushie! Got for my little brothers birthday. He loved it. Little hat is precious
 - When a "dinosaur with a party hat" was requested as a birthday gift this for the request perfectly. The quality is not the greatest and the seams are already starting to pull apart a little bit. However the birthday boy still loves it!
 - Cute Plushie. Very soft.
 - Kids had fun it's soft but the threading is coming loose
 - Came vacuum sealed and because it was a gift I didn't open it until right before the event. Unfortunately the material seam has separated and needs to be repaired. Slightly smaller than I anticipated also, but that's probably my fault. Medium softness.
 - It's cute in all but really small for the price
 - Odd smell, over priced garbage from China
 - Item does not have as much fluff, and is not giftable as it is air sucked in a bag horrible presentation for gift and when opened it has 0 tags

2. Modern Couch



Rationale:

We thought that our next category should be furniture, since furniture tends to be simple-looking, yet have a lot of variation between products. This couch looked good because it has a very unique shape and a detailed description, but a very low amount of reviews (1) compared to our previous choice.

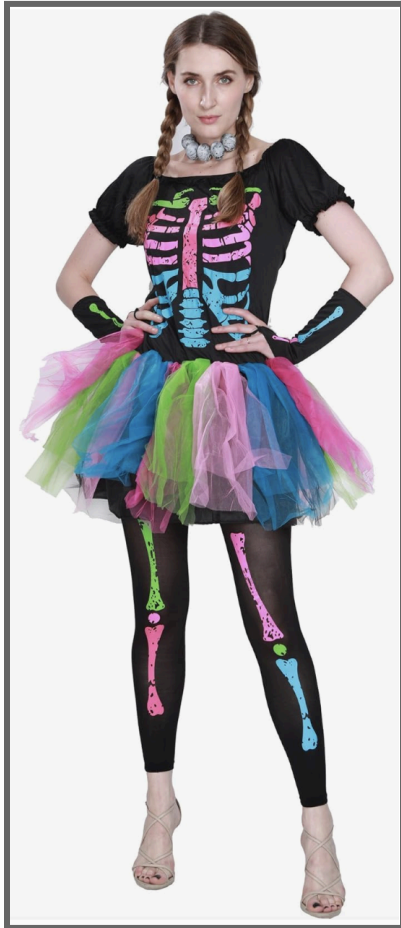
Textual Content

- Product Description:
 - 94" Mid Century Modern Curved Living Room Sofa, 3-Seat Boucle Fabric Couch for Bedroom, Office, Apartment, Beige
 - Brand: JUSTONE
 - Seating Capacity: 3
 - Frame Material: Wood
 - Shape: Curved
 - Style: Mid-Century Modern
 - Assembly Required: No
 - Seat Height: 17 Inches
 - Product Dimensions: 93.6"D x 41.3"W x 26.9"H
 - Item Weight: 299 Pounds
 - Color: 93.6"
 - Special Feature: Easy to Assemble

- Upholstery Fabric Type: Boucle
- Room Type: Living Room, Bedroom, Home Office
- Arm Style: Curved
- Elegance and Simplicity Modern Sofa - This 3-seat couch sofa stands for elegance and simplicity. Its soft padded structure appears full, generous and incredibly lightweight, thanks to the recessed base that seems to be lifting it off the floor. This refined sofa creates a warm, cozy and relaxing atmosphere with its comfortable, sinuous and enfolding silhouette, while providing a romantic and modern appeal to any residential or contract setting.
- Curved Boucle Fabric Sofa - The modern couch is covered in high-resilience Boucle Fabric which is breathable and soft making the sofa more comfortable to touch. The solid wood frame is firm enough to support most people. All these skin-friendly materials will provide you with a perfect experience. You will never feel uncomfortable when you sit or lie on the sofa.
- Luxurious Enjoyment - The thickened seat cushions for the couch is firm and comfortable, there are enough sponges to make sofa cushions more fluffy, which will provide you with much support. The curved thickened backrest can support the waist well. The enveloping shape of our JUSTONE sofa perfectly matches the sophisticated minimalist interiors.
- Dimensions - Choose an accessory that is the perfect size for you and your furniture. This living room sofa is 93.6" W x 41.2" D x 26.9" H
- No Assembly - This Curved sofa ships in a portable box for easy maneuvering. The grey sofa for living room, bedroom which easy to care for and maintenance, spot clean with a damp cloth.
- Elegance and Simplicity Modern Sofa - This 3-seat couch sofa stands for elegance and simplicity. Its soft padded structure appears full, generous and yet incredibly lightweight, thanks to the recessed base that seems to be lifting it off the floor. This refined sofa creates a warm, cozy and relaxing atmosphere with its comfortable, sinuous and enfolding silhouette.
- Due to the difference between computer display and photography, the color of the pictures and actual products will be slightly different.
- Application: Apartments, Leisure Clubs, Offices etc.
- Size: 93.6"L x 41.3"W x 26.9"H
- Color: Beige
- Silhouette: Curved
- Pillow Quantity: 3 Pillows
- Filler: High-density sponge
- Nothing is better than indulging yourselves for a restful retreat and enjoying the cuddle time with your family and loved ones on our luxurious and comfortable sofa!

- To provide premium and high quality products, we have implemented strict quality control to bring you the best.
- The upholstery material is made of top-quality chenille, offering you comfortable touch when you sit or lie to enjoy your leisure time.
- Solid wood frame,thickened seat cushions,curved thickened backrest
- Thickened seat cushions for the couch is firm and comfortable
- High-quality boucle fabric sofa couch for living room
- COMFORT&STYLE/LUXURY CURVED SOFA/DURABLE
COMFORT/SUITABLE BACKREST
- Customer Reviews:
 - The color is nice, craftsmanship was sturdy, Seams were straight, the fabric has a nice hand and is touchable. This is a unique sofa/couch, it's bold, colorful, with a very modern flare. Use it as your statement piece or as an accent piece in a favorite room. Communications to make arrangements for delivery were notable superior and pleasant.

3.Rainbow Skeleton Tutu



Rationale:

We chose this dress because the number of reviews (418) is somewhere between the other 2 products, and the dress just looks very unique. The description and product reviews should give the models a lot to work with.

Textual Content

- Product Description:
 - EraSpooky Women Funky Punk Bones Costumes Skeleton Colorful Tutu Dress
 - One of the cutest and colorful skeleton costumes ever!
 - Rainbow tutu dress with colorful ribcage print matches bone printed leggings and wristlets so you'll be ready to brighten up the night.
 - Ideal for stage performances, costume parties, Halloween, and more!
 - Includes neon rainbow dress, sleevelets, and footless tights.
 - Wash/Care Instructions- Hand wash cold. Line dry. Do not bleach.
 - EraSpooky storefront

- Our vision is to provide best online shopping experience with fast delivery service, timely after-sale customer care and high quality products.
- Women Skeleton Colorful Costume comes in 3 sizes:
- Medium Chest: 36.66in/94cm Length: 32.09in/81.5cm
- Large Chest: 39.78in/102cm Length: 34.45in/87.5cm
- X-Large Chest: 43.31in/110cm Length: 36.81in/93.5cm
- Tips: Sizes are approximate and given as a guide only.
- Customer Reviews
 - Slight bit to big, but there was no in between size so I chose large. I wear a size 10 to 12 in pants, it just decides on the pants for the size. I got a lot of compliments on it. It was very vibrant in colors. And just know that it's tight not leggings, when you buy this outfit. I loved it though.
 - Loved the colors. Ordered a large, dress has lots of room, could have gone down a size. The leggings are super thin and transparent, also too tight! Did not fit well. The arm parts have elastic at top that are a bit tight.
 - Cheap looking. Tight were like an xs with a large top
 - Easy and comfy to wear. The black lining under the tutu made it easy to use the bathroom, ha ha. Seriously though. Had to pull up the hose up to my waist to not feel the itchiness from the tulle where it was sewed to the top piece. Arrived just in time for Halloween as expected. Loved it!
 - I'm 5'5 110 pounds. I ordered the medium size. The top is huge and the "pants" are black footless stockings: be careful putting them on as they are the regular run type of dress/skirt stockings. They are not leggings. Yes they are kinda see through because they are stockings not leggings and they run VERY small. The stockings fit my 7 year old daughter and the "top" aka dress is huge on me. But I'll make it work lol. It's a cute outfit though!
 - I'm 5'8, 166 lbs and I bought the medium, I loved my costume, loved the bright colors, it's actually a dress which comes with leggings but the leggings are really thin, like stockings, I had to wear a black leggings and then put the sheer leggings ok it, but it worked out great
 - The product looks just like the image. Fun and bright, lots of compliments. Comfortable to wear.

PART 2. Analysis of Customer Reviews with LLM

For the analysis of the 3 products we took two approaches -

Sentiment Analysis

Used ChatGPT to generate sentiment scores between 1-5 for all three products.

```
system_prompt = "You are an advanced AI capable of gauging human sentiment into Positive, Negative and Neutral categories and providing a single integer sentiment score from 1 to 5 along with a rationale. The sentiment score should be formatted as a single integer, do not use fractions or any other format."
```

1. Product 1 Results:

Review: It's super soft and squishy. It was a birthday present for a friend, and she loved it

Analysis Result: Sentiment Score: 5

Rationale: The statement is overwhelmingly positive, expressing admiration for the softness and squishiness of the gift and the recipient's joy upon receiving it. The use of words like "loved" and "birthday present" indicates a high level of satisfaction and happiness.

Review: Cute plushie! Got for my little brothers birthday. He loved it. Little hat is precious

Analysis Result: Sentiment Score: 5

Rationale: The text contains positive words such as "cute," "loved," and "precious," indicating a high level of positivity. The overall sentiment is very positive as the plushie was well-received and appreciated by the user's little brother, contributing to the sentiment score of 5.

Review: When a 'dinosaur with a party hat' was requested as a birthday gift this for the request perfectly. The quality is not the greatest and the seams are already starting to pull apart a little bit. However the birthday boy still loves it!

Analysis Result: Sentiment Score: 3

Rationale: The overall sentiment is slightly positive as the birthday boy still loves the gift despite its shortcomings in quality. The enthusiasm for the unique request and the recipient's happiness contribute to a neutral to slightly positive sentiment.

Review: Cute Plushie. Very soft.

Analysis Result: Sentiment Score: 5

Rationale: The user's statement is positive, indicating an appreciation for the plushie being cute and very soft. The use of "cute" and "very soft" shows admiration and satisfaction, warranting a high sentiment score of 5.

Review: Kids had fun it's soft but the threading is coming loose

Analysis Result: Sentiment: 3

Rationale: The statement contains both positive and negative elements. The positive aspect is that the kids had fun, indicating a positive experience. However, the negative aspect of the threading coming loose detracts from the overall sentiment. Hence, considering both positive and negative elements, the sentiment score is neutral.

Review: Came vacuum sealed and because it was a gift I didn't open it until right before the event. Unfortunately the material seam has separated and needs to be repaired.

Slightly smaller than I anticipated also, but that's probably my fault. Medium softness.

Analysis Result: Sentiment Score: 2

Rationale: The overall sentiment seems to be negative due to receiving a defective item, with the material seam separating and needing repair. Additionally, there is a slight disappointment in the size being smaller than expected. The mention of "medium softness" indicates a mediocre experience, contributing to a generally negative sentiment.

Review: It's cute in all but really small for the price

Analysis Result: Sentiment Score: 2

Rationale: The statement contains both positive and negative elements. The mention of something being cute suggests a positive sentiment, but the criticism about the size being too small for the price indicates a negative sentiment. Overall, the sentiment score is 2 because the negative aspect outweighs the positive aspect in this context.

Review: Odd smell, over priced garbage from China

Analysis Result: Sentiment Score: 1

Rationale: The user's description of the product is overwhelmingly negative, citing an odd smell and being overpriced garbage from China. The choice of words clearly conveys disappointment and dissatisfaction, resulting in a sentiment score of 1.

Review: Item does not have as much fluff, and is not giftable as it is air sucked in a bag horrible presentation for gift and when opened it has 0 tags

Analysis Result: Sentiment Score: 2

Rationale: The comment expresses negativity towards the presentation of the item, mentioning it lacks fluff, is not giftable, and has poor packaging without any tags. These aspects would likely lead to disappointment for a gift recipient, indicating a negative sentiment overall.

Average Sentiment Score: 3.125

2. Product 2 Results:

Review: The color is nice, craftsmanship was sturdy, Seams were straight, the fabric has a nice hand and is touchable. This is a unique sofa/couch, it's bold, colorful, with a very modern flare. Use it as your statement piece or as an accent piece in a favorite room. Communications to make arrangements for delivery were notable superior and pleasant.

Analysis Result: Sentiment Score: 5

Rationale: The review is overwhelmingly positive with praise for the color, craftsmanship, fabric quality, design, and customer service. The language used is highly complimentary and enthusiastic, highlighting various aspects of the sofa/couch that are appreciated. The reviewer indicates satisfaction with both the physical attributes of the product and the overall customer experience, resulting in a sentiment score of 5.

Average Sentiment Score: 5.0

3. Product 3 Results:

Review: Slight bit too big, but there was no in between size so I chose large. I wear a size 10 to 12 in pants, it just depends on the pants for the size. I got a lot of compliments on it. It was very vibrant in colors. And just know that it's tights not leggings, when you buy this outfit. I loved it though.

Analysis Result: Sentiment Score: 5

Rationale: The user's review contains positive sentiment throughout, expressing satisfaction with the vibrant colors, compliments received, and overall love for the outfit despite it being a bit too big in size. The user seems enthusiastic and appreciative of the item.

Review: Loved the colors. Ordered a large, dress has lots of room, could have gone down a size. The leggings are super thin and transparent, also too tight! Did not fit well. The arm parts have elastic at top that are a bit tight.

Analysis Result: Sentiment Score: 2

Rationale: The overall sentiment expressed towards the dress is mixed. The user loved the colors and found that there was a lot of room in the large size, but felt that they could have sized down. However, they were dissatisfied with the thin and transparent leggings that were also too tight, along with the tightness of the elastic at the top of the arm parts. The negative feedback regarding the leggings and arm parts outweighs the positive feedback, resulting in an overall sentiment score of 2.

Review: Cheap looking. Tights were like an xs with a large top

Analysis Result: Sentiment: Negative

Sentiment Score: 2

Rationale: The review mentions that the product looks cheap and has a fit issue, indicating a negative experience with the purchase.

Review: Easy and comfy to wear. The black lining under the tutu made it easy to use the bathroom, ha ha. Seriously though. Had to pull up the hose up to my waist to not feel the itchiness from the tulle where it was sewed to the top piece. Arrived just in time for Halloween as expected. Loved it!

Analysis Result: Sentiment Score: 4

Rationale: The overall sentiment of the review is positive for the product, with the user mentioning the comfort and convenience of wearing the item. They also appreciate the functionality of the design with the black lining under the tutu. Despite noting the slight itchiness issue with the tulle, the user seems satisfied with the product and expresses love for it. The humorous tone used also adds to the positive sentiment.

Review: I'm 5'5 110 pounds. I ordered the medium size. The top is huge and the 'pants' are black footless stockings: be careful putting them on as they are the regular run type of dress/skirt stockings. They are not leggings. Yes they are kinda see through because they are stockings not leggings and they run VERY small. The stockings fit my 7-year-old daughter and the 'top' aka dress is huge on me. But I'll make it work lol. It's a cute outfit though!

Analysis Result: Sentiment Score: 3

Rationale: The review contains a mix of positive and negative aspects. The user seems to be disappointed with the size and fit of the outfit, indicating that it runs small and is not as expected. However, they also find the outfit to be cute and express a willingness to make it work despite the issues. Overall, the sentiment is somewhat neutral with a slightly positive leaning due to the user finding the outfit cute despite the sizing problems.

Review: I'm 5'8, 166 lbs and I bought the medium, I loved my costume, loved the bright colors, it's actually a dress which comes with leggings but the leggings are really thin, like stockings, I had to wear black leggings and then put the sheer leggings on it, but it worked out great

Analysis Result: Sentiment Score: 4

Rationale: The overall sentiment expressed in the text is positive. The user loved their costume, particularly highlighting the bright colors and the fact that it's a dress which comes with leggings. They found a solution to the thin leggings by wearing black leggings underneath, which worked out great for them.

Review: The product looks just like the image. Fun and bright, lots of compliments. Comfortable to wear.

Analysis Result: Sentiment Score: 5

Rationale: The user's comment is filled with positive language such as "looks just like the image", "fun and bright", "lots of compliments", and "comfortable to wear". The overall sentiment is highly positive, indicating a score of 5.

Average Sentiment Score: 3.5714285714285716

Feature Extraction

Use the Product's Description and Reviews from Q1, we test 3 different approaches for feature extraction -

1. Feature extraction using Product Description and Reviews

- a. **Baseline Prompt** - I am a grad student in a Generative AI lab course. In this course, we have an assignment to choose some products from Amazon, take their description and reviews as textual data, and eventually create an accurate image of the product using generative image AI. I will give you all the original textual content from a product. When I finish and type 'DONE', extract all the information about what the product looks like so that I can create an accurate image later. Focus on visual information such as colors, texture, accessories, shape, decoration details, etc. We want to generate an image of what the product looks like in it's ideal state like in the Amazon-supplied images.

2. Feature extraction using Product Description

- a. **Baseline Prompt** - I am a grad student in a Generative AI lab course. In this course, we have an assignment to choose some products from Amazon, take their description as textual data, and eventually create an accurate image of the product using generative image AI. I will give you all

the original textual content from a product. When I finish and type 'DONE', extract all the information about what the product looks like so that I can create an accurate image later. Focus on visual information such as colors, texture, accessories, shape, decoration details, etc. We want to generate an image of what the product looks like in it's ideal state like in the Amazon-supplied images.

3. Feature extraction using Product Reviews

- a. **Baseline Prompt** - I am a grad student in a Generative AI lab course. In this course, we have an assignment to choose some products from Amazon, take their customer reviews as textual data, and eventually create an accurate image of the product using generative image AI. I will give you all the original textual content from a product. When I finish and type 'DONE', extract all the information about what the product looks like so that I can create an accurate image later. Focus on visual information such as colors, texture, accessories, shape, decoration details, etc. We want to generate an image of what the product looks like in it's ideal state like in the Amazon-supplied images.

Output for each product is given below -

| | Description and Review | Only Description | Only Review |
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| Product 1 | Based on the textual descriptions and reviews provided for the VHYHCY Stuffed Dinosaur Plush Toy, here is a summary of the visual information to create an accurate image of the product:\n\n- Color : Active Green\n- Material : Made of high-quality polyester fiber and filled with PP cotton\n- Design : Features a cute dinosaur design with a cute expression, suitable for kids and dino lovers\n- Size : 9 inches in length, described as mini and cute, perfect for both boys and girls\n- Accessories : Some | Based on the provided textual content, here is the visual information extracted to help create an accurate image of the "VHYHCY Stuffed Animal Plush Toys, Cute Dinosaur Toy":\n\n- Color : Active Green\n- Texture : High-quality polyester fiber and PP cotton, providing a smooth and delicate texture\n- Accessories : None mentioned\n- Shape : Cute dinosaur design with a sweet expression\n- Decoration Details : Can be used for decoration in family bedrooms, cars, etc.\n- Size : 9 inches, considered a mini and cute | Based on the textual content you provided, here is the extracted information about the plushie product:\n\n- Texture : The plushie is described as "super soft and squishy," "very soft," and "soft but the threading is coming loose."\n- Color : No specific color details were mentioned in the reviews.\n- Accessories : The plushie has a little hat which is described as "precious."\n- Size : Some reviewers noted that |

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| | <p>mentions of a little hat on the plushie, adding a precious touch to the design\n- Texture: Described as soft, squishy, and comfortable to hold, with a smooth feel and delicate texture\n- Features: Can be used as a decorative item in family bedrooms, cars, etc.\n- Concerns: Some reviews indicate issues with seam quality, slight threading coming loose, small size compared to expectations, and a vacuum-sealed packaging leading to a need for repairs.\n\nTo create an accurate image of the product, you can focus on showcasing the cute dinosaur design in active green color, with attention to details like the little hat, soft and squishy texture, and the compact size suitable for children. Paying close attention to the quality of seams and overall presentation can help in capturing the essence of the product accurately.</p> | <p>size ideal for both boys and girls\n- Other Details: \n - Firmly sewn plush toy\n - Suitable for dino lovers, kids, tee girls, girlfriends, and sisters\n - Ideal gift for Valentine's Day, children, family, or friends\n - Easy to carry and place as an ornament in various settings\n\nThis visual information should help in generating an accurate image of the product using generative image AI.</p> | <p>the plushie is slightly smaller than anticipated and is "really small for the price."\n- Quality: There are mentions of the quality not being the greatest, with seams starting to pull apart on some plushies. One reviewer mentioned that the item does not have as much fluff and is not giftable due to its presentation being air sucked in a bag with zero tags.\n- Smell: One reviewer mentioned an odd smell coming from the plushie.\n- Origin: One reviewer mentioned that the product is described as "overpriced garbage from China."\n\nUsing this information, you can create an accurate image of the plushie by incorporating its soft and squishy texture, the presence of a hat, the relatively smaller size, potential quality issues with seams, and potential odd smell.</p> |
| Product 2 | <p>Based on the textual description provided for the 94" Mid Century Modern Curved Living Room Sofa by JUSTONE, here is the extracted information to help create an accurate image of the</p> | <p>Based on the textual description of the 94" Mid Century Modern Curved Living Room Sofa in beige color with Boucle fabric upholstery, here is an extraction of visual information to help create</p> | <p>Based on the textual content you provided, here is the extracted information about what the sofa/couch might look like:\n\n- Color: The color is described as nice,</p> |

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| | <p>product:\n\n **Product Type:** 94" Mid Century Modern Curved Living Room Sofa\n- **Brand:** JUSTONE\n- **Seating Capacity:** 3\n- **Frame Material:** Wood\n- **Shape:** Curved\n- **Style:** Mid-Century Modern\n- **Color:** Beige\n- **Upholstery Fabric Type:** Boucle\n- **Room Type:** Living Room, Bedroom, Home Office\n- **Special Feature:** Easy to Assemble\n- **Arm Style:** Curved\n- **Dimensions:** 93.6"D x 41.3"W x 26.9"H\n- **Item Weight:** 299 Pounds\n- **Features:** \n - Upholstered in high-resilience Boucle Fabric\n - Sturdy solid wood frame\n - Comfortable, sinuous and enfolding silhouette\n - Soft padded structure\n - Thickened seat cushions for firm and comfortable seating\n - Curved thickened backrest for good support\n - Pillow Quantity: 3 Pillows\n - High-density sponge filler for comfort\n- **Description:** \n - The sofa is described as elegant, simple, and lightweight\n - Creates a warm, cozy, and relaxing atmosphere\n - Offers luxurious enjoyment with premium quality materials\n - Suitable for residential or contract settings\n - Easy to care for and maintain\n- **Customer Review</p> | <p>an accurate image of the product:\n\n **Color:** Beige\n- **Material:** Boucle fabric upholstery\n- **Size:** The sofa is 93.6 inches long, 41.3 inches wide, and 26.9 inches high.\n- **Shape:** Curved silhouette with a curved backrest.\n- **Style:** Mid-Century Modern style.\n- **Frame:** Solid wood frame providing firm support.\n- **Seating Capacity:** 3-seater sofa with a seat height of 17 inches.\n- **Arm Style:** Curved arms for added comfort and style.\n- **Pillows:** Comes with 3 pillows for additional comfort.\n- **Features:** High-density sponge filler for the seat cushions, easy to assemble, no assembly required, luxurious enjoyment, elegance, simplicity, and durability.\n- **Suitable for:** Living rooms, bedrooms, home offices, apartments, leisure clubs, and offices.\n- **Maintenance:** Spot clean with a damp cloth.\n\nThe ideal image of the product would showcase a cozy and elegant beige-colored 3-seater sofa with a curved silhouette, curved arms, and luxurious Boucle fabric upholstery. The sofa should radiate a warm and inviting atmosphere while embodying the sophistication and comfort of mid-century modern design.</p> | <p>bold, and colorful. This indicates that the sofa/couch likely has vibrant and eye-catching hues.\n- **Materials:** The craftsmanship is mentioned to be sturdy, with straight seams. The fabric is described as having a nice hand and being touchable, suggesting a comfortable and high-quality material.\n- **Design Style:** The sofa/couch is characterized as having a very modern flare, making it likely to feature contemporary and stylish design elements.\n- **Usage:** It can be used as a statement piece or an accent piece in a room, indicating that it may have distinctive or unique features that can draw attention.\n- **Accessories:** No specific mention of accessories is provided, so the focus may be on the main structure and design of the sofa/couch.\n\nThis information can help guide the creation of an accurate image of the sofa/couch using generative image AI.</p> |
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| | <p>Highlights:** \n - Craftsmanship is sturdy and stylish\n - Fabric is touchable and comfortable\n - Bold, colorful, and modern statement piece or accent piece\n - Superior and pleasant customer service experience\n\nThis extracted information should provide a detailed understanding of the visual attributes and features of the product, which can be used to create an accurate image using generative image AI techniques.</p> | | |
| Product 3 | <p>Based on the textual data provided, here is the extracted information about the aesthetics of the product "EraSpooky Women Funky Punk Bones Costumes Skeleton Colorful Tutu Dress":\n- The costume is described as colorful, vibrant, and fun with rainbow colors.\n- It features a rainbow tutu dress with a colorful ribcage print, matching bone printed leggings, and wristlets.\n- The tutu dress has a neon rainbow design.\n- The ribcage print on the dress is colorful and eye-catching.\n- The leggings are described as black footless stockings, thin, and somewhat transparent.\n- The arm parts have elastic at the top that may feel tight.\n- The tights are described as thin like stockings and</p> | <p>Based on the textual description provided for the EraSpooky Women Funky Punk Bones Costume Skeleton Colorful Tutu Dress, here is the extracted visual information to help create an accurate image of the product:\n\n- **Product Name:** EraSpooky Women Funky Punk Bones Costume Skeleton Colorful Tutu Dress\n- **Color Scheme:** The costume features a rainbow color scheme, with a colorful ribcage print on the rainbow tutu dress. Additionally, the outfit includes bone printed leggings and wristlets in vibrant colors to match.\n- **Texture:** The tutu dress likely has a fluffy and light texture, typical of tutus. The bone printed leggings and wristlets may feature a smooth or slightly textured material to mimic bones.\n-</p> | <p>Based on the extracted information from the customer reviews, here is a summary of what the product looks like:\n\n- The product is a costume consisting of a dress and leggings.\n- The colors of the costume are described as vibrant, fun, and bright.\n- The dress is loose-fitting and roomy, potentially oversized for some customers.\n- The leggings are thin and transparent, more like stockings than leggings.\n- The costume includes a tutu with black lining underneath.\n- The arm parts of the costume have elastic that can be slightly tight.\n- Some customers found the</p> |

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| | <p>run small in size.\n- The material of the dress is mentioned to have some itchiness from the tulle where it is sewn.\n- The dress is noted to have a black lining under the tutu for ease of use in the bathroom.\n- The colors of the costume are bright and vibrant, matching the rainbow theme.\n- The outfit is suitable for stage performances, costume parties, Halloween, and is visually appealing.\n- Overall, the product is described as fun, bright, comfortable to wear, and received many compliments.\n\nBased on these descriptions, the ideal image of the product would feature:\n- A rainbow tutu dress with a colorful ribcage print.\n- Matching bone printed leggings and wristlets in bright rainbow colors.\n- A neon rainbow design on the dress.\n- The dress with a black lining under the tutu for practicality.\n- Thin, black footless stockings for the leggings component.\n- Elastic arm parts with a tight fit.\n- A fun, vibrant, and colorful overall appearance that stands out and is suitable for various events and occasions.</p> | <p>**Accessories:** The costume includes sleevelets and footless tights in neon rainbow colors to complement the overall look.\n- **Shape:** The dress is described as a tutu dress, which typically has a flared and layered skirt, creating a fun and playful silhouette.\n- **Decoration Details:** The main decorative feature is the colorful ribcage print on the dress, adding a funky and vibrant element to the skeleton costume. The bone printed leggings also contribute to the overall skeleton theme.\n- **Ideal Usage:** The costume is ideal for stage performances, costume parties, Halloween, and other fun and festive occasions.\n\nBy incorporating these visual details, you can create a more accurate representation of the EraSpooky Women Funky Punk Bones Costume Skeleton Colorful Tutu Dress using generative image AI.</p> | <p>dress to be huge in size, especially in the top part.\n- The leggings are footless stockings that run very small.\n- The costume is suitable for Halloween and received compliments from customers.\n- Overall, it is a cute outfit that is easy and comfortable to wear.\n\nThis information provides a visual description of the product, emphasizing its colorful and playful appearance, loose-fitting style, and the unique features of the dress and leggings.</p> |
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From this analysis we found that - Description and Reviews provide a more complete and detailed view of the product, capturing both the manufacturer's specifications and real-world customer experiences. The descriptions typically highlight intended design features, color, materials, and usage, while reviews often bring up aspects like true-to-description accuracy,

color fidelity under different lighting, wear and tear over time, and unadvertised features or flaws.

For example, with the VHYHCY Stuffed Dinosaur Plush Toy:

- The description details the intended design, including color, material, and size.
- The reviews add context on how the product holds up in use, such as issues with seam quality and the actual softness and size perception, which can be crucial for a realistic representation.

Using both product descriptions and reviews for feature extraction in generative AI applications leads to more accurate, realistic, and contextually relevant images. This approach leverages the strengths of both data types to compensate for their individual limitations, resulting in a more complete and consumer-validated portrayal of products. This is why we ended up using the combined technique of description plus review feature extraction for the input to our image generation step detailed below.