

Claims

What is claimed is:

1. A computer-implemented system for providing product recommendations, the system comprising:
 - a memory storing instructions; and
 - at least one processor configured to execute the instructions to:
 - receive, from a user device, a search query;
 - define, using a query handler cluster, context associated with the search query;
 - identify, using a search cluster, one or more products associated with the defined context;
 - filter, using the search cluster, the one or more products associated with the defined context based on features associated with the one or more products stored in a database;
 - rank, using the search cluster, the one or more products associated with the defined context based on a score generated for each product; and
 - display, on the user device, product recommendations, wherein the product recommendations comprise a number of the one or more ranked products.
2. The system of claim 1, wherein the context associated with the search query comprises at least one of a product associated with the search query, a timestamp of the search query, a product category associated with the search query, or user information associated with the search query.

3. The system of claim 1, wherein the features associated with the one or more products comprise at least one of related products, related product categories, related product images, feedback score, product category, product price, product review, or product discount.
4. The system of claim 1, wherein the features associated with the one or more products are indexed.
5. The system of claim 4, wherein the features associated with the one or more products are reverse indexed to determine one or more related products associated with each of the one or more products.
6. The system of claim 4, wherein the features associated with the one or more products are reverse indexed to determine one or more filters associated with each of the one or more products.
7. The system of claim 1, wherein the score is generated for each product using a machine learning model.
8. The system of claim 7, wherein the machine learning model is trained using user feedback information associated with products recommended to users, and wherein the machine learning model is configured to predict performance associated with product recommendations.

9. The system of claim 1, wherein the at least one processor is further configured to execute the instructions to:
- log information associated with a user of the user device, wherein the information comprises at least one of products seen by the user, products purchased by the user, products searched by the user, user product preference, user price preference, or user brand preference; and
 - generate features associated with the user.
10. The system of claim 9, wherein the at least one processor is further configured to execute the instructions to:
- filter the one or more products associated with the defined context based on the features associated with the one or more products stored in a database and the features associated with the user.
11. A computer-implemented method for providing product recommendations, the method comprising:
- receiving, from a user device, a search query;
 - defining, using a query handler cluster, context associated with the search query;
 - identifying, using a search cluster, one or more products associated with the defined context;
 - filtering, using the search cluster, the one or more products associated with the defined context based on features associated with the one or more products stored in a database;

ranking, using the search cluster, the one or more products associated with the defined context based on a score generated for each product; and

displaying, on the user device, product recommendations, wherein the product recommendations comprise a number of the one or more ranked products.

12. The method of claim 11, wherein the context associated with the search query comprises at least one of a product associated with the search query, a timestamp of the search query, a product category associated with the search query, or user information associated with the search query.
13. The method of claim 11, wherein the features associated with the one or more products comprise at least one of related products, related product categories, related product images, feedback score, product category, product price, product review, or product discount.
14. The method of claim 11, wherein the features associated with the one or more products are reverse indexed to determine one or more related products associated with each of the one or more products.
15. The method of claim 11, wherein the features associated with the one or more products are reverse indexed to determine one or more filters associated with each of the one or more products.

16. The method of claim 11, wherein the score is generated for each product using a machine learning model.
17. The method of claim 16, wherein the machine learning model is trained using user feedback information associated with products recommended to users, and wherein the machine learning model is configured to predict performance associated with product recommendations.
18. The method of claim 11, further comprising:
 - logging information associated with a user of the user device, wherein the information comprises at least one of products seen by the user, products purchased by the user, products searched by the user, user product preference, user price preference, or user brand preference; and
 - generating features associated with the user.
19. The method of claim 18, further comprising:
 - filtering the one or more products associated with the defined context based on the features associated with the one or more products stored in a database and the features associated with the user.
20. A computer-implemented system for providing product recommendations, the system comprising:
 - a memory storing instructions; and
 - at least one processor configured to execute the instructions to:

receive, from a user device, a search query;

define, using a query handler cluster, context associated with the search query;

identify, using a search cluster, one or more products associated with the defined context;

filter, using the search cluster, the one or more products associated with the defined context based on features associated with the one or more products stored in a database and features associated with a user of the user device;

rank, using the search cluster, the one or more products associated with the defined context based on a score generated for each product, wherein the score is generated using a machine learning model; and

display, on the user device, product recommendations, wherein the product recommendations comprise a number of the one or more ranked products.