Lucidworks Fusion

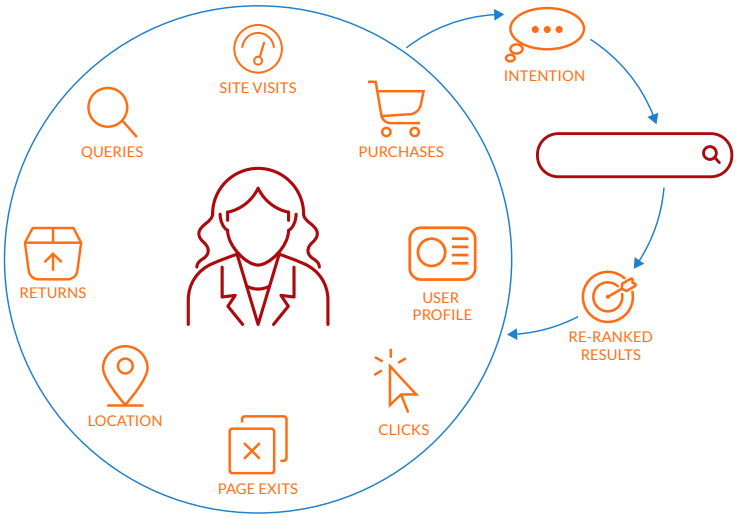
FUSION AI

Superior search relevancy through signal capture, machine learning, and artificial intelligence.

Fusion AI adds the power of cutting-edge technologies like machine learning and artificial intelligence to deliver an optimal user experience with exceptional relevancy for every user.

How it Works

Fusion AI uses signal capture to dynamically record user behavior like queries, clicks, views, purchase behavior and other actions. These events are then aggregated, analyzed, and applied to search results at query time, creating a truly optimized experience for every end user. This results in continually refined, self-tuning relevance that is always adjusting based on end user behavior and the data being searched. Signals can also include purchase history, past queries, user profiles, device, language, location, and ratings.



Fusion AI aggregates user behavior to rank and filter results for each user.

Collaborative Recommendations

Users often submit the same queries, but click on something other than the top result. Collaborative recommendations take the actions of one user for one query and applies them to the results for similar users submitting similar queries. So if a user clicks on a certain document for a certain query, that document is boosted in the search results the next time another user is searching for the same thing.

- An employee searches the intranet for the holiday schedule. Last year's schedule is still showing at the top, with this year's right underneath it. They click to view the schedule for the current year. That document is then boosted to the top the next time any user submits the same query.
- A shopper looking for a new smartphone sees a list of search results, but accessories are at the top—not the actual phone. They click on the result that's the phone and the phone is boosted and listed above the accessories the next time another shopper is looking for that smartphone.

Personalized Recommendations

Ecommerce has transformed expectations so every user wants individual, customized search results—even when they're not shopping. Personalized recommendations take all the actions for one individual user to find recom-mendations for products that are similar (i.e. "More Like This").

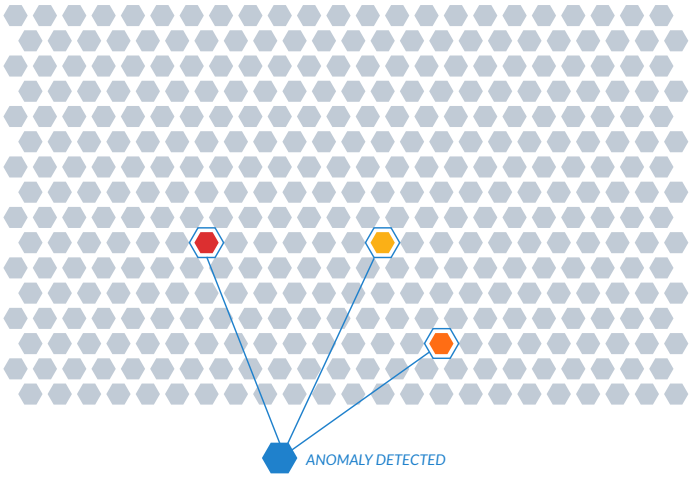
- A user searches for a thermometer but doesn't purchase it because they've had bad experiences with that

particular brand. A similar product from a different brand is recommended.

Predictive Search

Conventional search makes the user submit a query, review a list of results, and select one. Predictive search is when you show the user what they're looking for without them having to type a thing.

- A wealth advisor starts the day with a list of what customers they should call—and what offer or product they should recommend.



Anomaly Detection and Analytics

Organizations have mountains of data logs from their infra-structure, products, and services. Anomaly detection uses machine learning models to compare a current set of logs to past examples of bad actors and other risk profiles and finds possible events for escalation and investigation. Fusion can also be used for more conventional log analytics like intrusion and fraud detection.

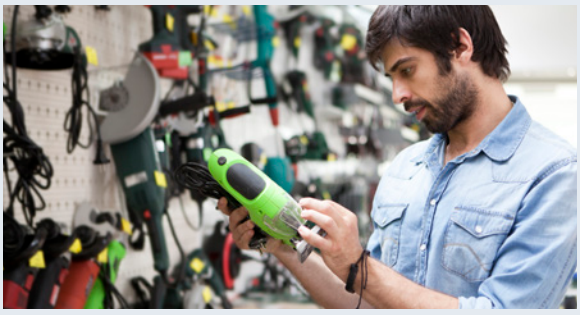
- A banking institution scans all inbound and outbound communications and emails in real-time and compares it to past examples of collusion and insider trading. Any flagged messages are sent to the internal audit team for evaluation.

Understand Intent

Fusion's classifier technology analyzes incoming queries to understand intent and fill in the blanks leading to broader, more diverse, or more precise answers as desired. Popular classification models come pre-tuned and ready to go. Fusion has several techniques that take and define more features to train the data on like term frequency, Word2Vec, and others. Further understanding of intent is captured with models for detecting comon mispellings, statistically interesing phrases, and other analysis models.

Signals are events or characteristics that help indicate or define user intent. These are generally demographic or time series data.

clicks
queries
purchase history
cart behavior
device
language
region
gender
current location
direction of travel
business unit
age
loyalty program
customer profile
previous searches
document views
ratings
reviews
external data sources



Home Improvement Retailer

One of the top five home improvement retailers moved their search to Fusion and saw add-to-cart increase 17%, checkout increase 18%, and an incremental $6.5M to the checkout.

Get Started or Learn More

For more information or to start using Fusion Server, contact us today at lucidworks.com/contact or call 415-329-6515.