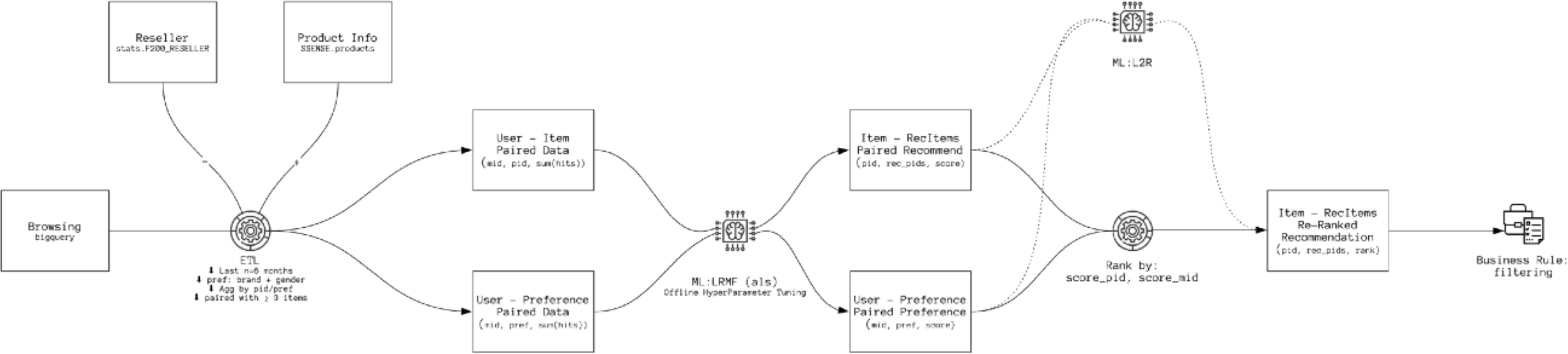


RECOMMENDER SYSTEM ARCHITECTURE



Data Access:

- BigQuery: browsing tuple (mid, pid, sum(hits))
- MySQL Data Science: reseller information (mid)
- MySQL SSENSE: product info (pid, sku, gender, subcategory, active[listed, stock])

Glossary:

ETL: Extract Transform Loading
ML: Machine Learning
LRMF: Low Rank Matrix Factorization
als: alternating least square
L2R: Learning to rank
BPR: Bayesian personalized ranking

HYPERPARAMETER TUNING

- ▶ Input of Data: [length of history, measurement, filter, PID/Preference(level)]
- ▶ ALS Model Specific:
 - ▶ Weighting: None / TF-IDF (/ BM25)
 - ▶ Cost Function: [α , λ]
 - ▶ Number of Factors, Number of Iterations
- ▶ Ranking Methodology