

# Sebastian Montoya

(240) 506-9840 | [smontoyasan@gmail.com](mailto:smontoyasan@gmail.com) | [linkedin.com/in/sebastianmontoyas](https://www.linkedin.com/in/sebastianmontoyas) | [github.com/montoyo](https://github.com/montoyo)

## TECHNICAL SKILLS

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**Languages:** Python, Java, C, Rust, SQL/MySQL, JavaScript/TypeScript, MATLAB

**Cloud, Storage & Infrastructure:** GCP, AWS, Terraform, Docker, Kubernetes, Cloud Run, Cloud Functions, Pub/Sub, BigQuery, Bigtable, Spanner, MemoryStore

**Distributed Systems & Backend:** Redis, Apache Storm, Apache Beam, Dataflow, Dataproc, Airflow, REST API design, GraphQL, caching, stream processing

**ML, Testing & Observability:** Weights & Biases, TensorFlow, experiment tracking, production monitoring, unit testing

## PROFESSIONAL EXPERIENCE

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### Yahoo! – Software Development Engineer II

New York City, NY — 2022 – Present

- Independently led design, implementation, testing, and GA launch of Yahoo's article recirculation engine serving 8M+ daily active users and 30K articles/day; increased CTR from 4.0% to 4.5% and affiliate revenue by 20%.
- Architected end-to-end recommendation infrastructure spanning recall, ranking, content metadata, user signals, caching, and production serving; owned technical direction across quality, latency, reliability, and product impact.
- Built and deployed cloud-native MLOps pipeline in GCP for model training, containerization, artifact management, and production service deployment, streamlining the path from experimentation to serving endpoints.
- Integrated Artifact recommendation systems after Yahoo's acquisition by modifying ingestion pipelines, classification models, two-layer k-clustering, Bayesian user profiles, and business logic for Yahoo-scale datasets.
- Implemented multi-dimensional recall channel using geography, intent, content type, demographics, recency, engagement, and topic relevance signals; became the highest-performing Home recall channel at 4.5% CTR.
- Optimized headline clustering system from 2 hours to 15 minutes, enabling near real-time news aggregation and improving freshness for users in latency-sensitive recommendation flows.
- Conducted 200+ LLM/content-classification experiments and built a Python testing suite with Weights & Biases, achieving 95% tagging accuracy and improving observability for model iteration.

### Yahoo! – Software Development Engineer I

Mountain View, CA — 2021 – 2022

- Designed, developed, and tested Java services to process and serve 7M+ daily documents for Yahoo properties, enabling migration from six global data centers to cloud-based infrastructure.
- Consolidated API calls across five pipeline stages and three topologies into a unified service layer handling 1.5M+ daily Apple Finance articles, reducing redundancy, integration complexity, and system load.
- Built near-real-time ranking topology in Java and Apache Storm with Redis caching for Yahoo Sports platforms, supporting low-latency feature delivery for online learning and article ranking.
- Redeveloped sports entity tagging with Java and Redis, increasing average detected entities per article from 1 to 4 and expanding personalization signals for downstream ranking systems.
- Implemented configurable content-filtering system with query-parameter controls, improving inappropriate-material blocking while maintaining product-level flexibility.

### Chiper S.A.S. – Data Scientist

Bogota, Colombia — May 2020 – Oct 2020

- Developed Python/SQL recommendation and pricing systems, including collaborative filtering across stores and products using cosine similarity, Pearson correlation, and 50+ behavioral/product features.

## SELECTED PROJECTS & LEADERSHIP

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### Router and Network Emulator

Purdue University — 2020

- Programmed a router in C implementing forced-update and split-horizon rules for a path-vector algorithm, reinforcing network protocol, data-structure, and systems fundamentals.

### RISING ERG – Cofounder & Global Finance Lead

New York City, NY — 2023 – Present

- Cofounded Yahoo's first ERG dedicated to early-career professionals; grew community to 800+ members across 6 countries and secured executive sponsorship and HR budget.

## EDUCATION

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### Purdue University – School of Engineering

West Lafayette, IN

Bachelor of Science in Computer Engineering, Minor in Economics

May 2022

**Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Computer Communication Networks, Computer & Network Security