

ZHACHORY VOLKER

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Highly accomplished Staff Software Engineer with over 13 years of full-stack development experience, specializing in Machine Learning (10+ years) and data mining (8+ years). Proven expertise in designing and implementing scalable Machine Learning systems, Search and Recommendation stacks, and robust infrastructure. Adept at leveraging diverse technologies to drive significant user engagement, efficiency improvements, and product innovation. Committed to continuous learning and applying cutting-edge techniques to deliver impactful, responsible solutions.

Connect

Github: @Zhachory1

LinkedIn: zhachory1

Website: zhach.me

Experience

Staff Software Engineer *Rokt*

October 2025 - Present | New York, New York

- Direct and mentor a team of 15 engineers on the Audience and Bidding team, providing technical leadership, coaching, and strategic direction to drive high-performance delivery, currently delivering a 40% uplift in CVR for ML generate audiences.
- Architected and deployed a dynamic ranking layer for on-the-fly audience generation, optimizing for CVR and scaling revenue from generated audiences by 120%.
- Reduced machine learning audience generation pipeline costs by 75% (saving ~\$750k annually) by migrating to a highly stable two-tower infrastructure and implementing a robust data refresh system.
- Spearheaded an org-wide AI integration initiative, upskilling engineers to utilize AI tooling (Claude, Cursor, OpenCode, Codex) for coding, documentation, system management, and debugging, improving overall Developer Satisfaction by 25%.
- Founded and led the Deaf affinity group, championing "Deaf Gain" to leverage unique visual skills and promote workplace diversity and inclusion.

Senior Software Engineer *YouTube Search*

March 2018 - September 2025 | New York, New York

- Designed and implemented a unified ranking framework to evaluate diverse content types (shelves, playlists, channels, articles) within the same scoring space on the YouTube Search results page, increasing overall Search Active Users (SAUs) by 2% and increasing CTR by an average of 25% for multiple features in a single launch.
- Created the YouTube Search News experience by implementing clustering algorithms, NLP models, and scalable infrastructure, resulting in a 38% increase in News Click-Through Rate (CTR) and a 10% rise (~8 Million queries) in News Searches per day with a team of 4 SWEs.
- Led a resource optimization project achieving a 60% reduction in compute usage through efficient metric analysis and ranking model refactoring (estimated annual savings: \$1.8M).
- Launched a critical feature surfacing authoritative news articles for breaking news queries to combat misinformation, collaborating with Google News and improving news user satisfaction by 13%.
- Collaborated cross-functionally with teams across YouTube and Google to improve code health, testing practices, and developer tooling, reducing code complexity (Halstead score) by 9% and increasing internal documentation health score by 25%.

Software Engineering Resident *Google Research*

March 2017 - March 2018 | New York, New York

- Applied NLP and Machine Learning to 10,000+ articles (RNNs, CNNs, Decision Trees) for associating user questions with relevant documents in the fact-checking corpus, which can be seen on the first page of Google current day.
- Created and maintained MapReduce pipelines (C++) for managing the size and processing of the fact-checking article corpus which was used by 6 Large News Publishers with XXM sized audiences.
- Contributed to the maintenance and enhancement of a graph mining library utilized across Ads, YouTube, Research, and Maps.
- Developed data pipelines implementing label propagation and semi-supervised learning algorithms on large-scale graphs, increasing library adoption by 8%.
- Developed a full-stack internal research tool using Java, TypeScript, and Angular to facilitate discovery of fact-checking articles.
- Implemented robust evaluation functions for effective model training based on a published research paper's ("Watch Your Step: Learning Node Embeddings via Graph Attention") internal implementation.

Education

University of North Texas

Bachelors of Computer Science

August 2013 - May 2018

GPA: 3.443

Relevant Coursework:

Advanced Algorithms, Data Structures, Software Engineering, Discrete Math, Game Mechanics, Operating Systems, Artificial Intelligence

Dean's List:

Fall 2013, Spring 2015, Fall

2015, Spring 2016

Skills

Machine Learning & AI: TensorFlow, PyTorch, Deep Learning, NLP, Transformers, Reinforcement Learning, Genetic Algorithms, Clustering, Label Propagation, Semi-Supervised Learning, Graph Mining, Embeddings, Ranking Systems, AI Coding Assistants (Claude, Cursor, Codex, OpenCode)

Data Processing & Databases: Spark, Kafka, Hadoop, MapReduce, Data Mining, Data Analysis, SQL, PostgreSQL, MySQL, Cassandra, MongoDB, HBase

Web Technologies: Full-Stack Development (LAMP/MEAN), NodeJS, Angular, Polymer, React

Software Development & Infrastructure: Scalable Infrastructure Design, System Monitoring, CI/CD, Docker, Kubeflow, Buildkite, Object-Oriented Programming (OOP), Test-Driven Development (TDD), Advanced Algorithms, Data Structures, Code Health Optimization, Linux, Windows, Git, Mercurial

Soft Skills: Leadership & Technical Mentorship, Collaboration & Teamwork, Communication, Problem-Solving, Conflict Resolution, Analytical Thinking, Adaptability, Continuous Learning