

Gustavo Gómez

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GGEM

Professional Summary

Senior software engineer and distributed systems specialist with deep expertise in high-performance computing, large-scale data systems, and AI-driven applications. Ph.D. in Computer Science with a focus on automatic performance analysis and optimization of programs. Passionate about building efficient, scalable infrastructure for deep learning and intelligent systems. Experienced across the full stack — from systems-level design and distributed computing to cloud-native pipelines and large-scale data processing frameworks.

Experience

Oracle

Boulder, CO

Principal Applications Engineer

Oct '13 – Sep '25

- Lead engineer for distributed data services processing 1B+ daily events, optimizing for scalability, reliability, and performance.
- Owned the operation and maintenance of production and development Hadoop clusters, building large-scale MapReduce pipelines in Scala and data workflows using Hive and Bash.
- Architected and delivered a complete redesign of core services using Scala, Java, Kafka, Docker, Kubernetes, and Oracle OCI.
- Designed fault-tolerant, high-availability systems for mission-critical infrastructure.
- Partnered cross-functionally to ensure end-to-end reliability and observability of services.

Rosetta Stone

Harrisonburg, VA – Boulder, CO

Software Developer

Mar '09 – Jun '13

- Architected and implemented data collection and analytics pipelines for learner interaction data across millions of users.
- Developed distributed RESTful APIs and media management systems handling large-scale concurrent access.
- Built big-data integrations using Hadoop, HBase, Hive, and MapReduce.
- Led CI/CD practices for multiple teams (Jenkins, Maven, Agile).

Amazon.com

Seattle, WA

Software Developer Engineer

Jan '08 – Jan '09

- Designed and implemented real-time distributed systems for analyzing logs from thousands of servers (~2 TB/hour throughput).
- Built tools to aggregate and suppress millions of system alarms across Amazon's compute fleet.
- Contributed to low-latency, high-reliability systems foundational for large-scale ML and monitoring frameworks.

University of Colorado. Psychology Department

Boulder, CO

Software Developer

Jun '13 – Sep '14

- Built mobile data collection apps (iOS/Android) with real-time sync and offline caching.
- Delivered cross-platform Ruby/Rails back-end services for large-scale behavioral studies.

Indiana University, Ph.D.

Bloomington, IN

Research Assistant/Instructor

Aug '99 – May '05

- Designed and built interpreters and compilers, plus systems for automatic worst-case execution time (WCET) analysis.
- Performed deep performance modeling and optimization, analyzing memory, concurrency, and execution-time bounds.
- Worked on programming-language research, contributing to high-assurance and real-time system performance.

Earlier Experience

○ **Gambro BCT, CyDSA, ITESM:** Built deterministic, performance-focused distributed systems in C++, C, and Prolog.

○ **Indiana University — Research Assistant & Instructor:** Designed compilers, interpreters, and automatic execution-time analysis systems.

Education

Indiana University

Bloomington, IN

Ph.D. — Computer Science, Programming Languages, Artificial Intelligence

2006

Focus: Programming Languages, AI, and Automatic Performance Analysis

Monterrey Institute of Technology (ITESM)

Monterrey, Mexico

M.Sc. — Computer Science, Artificial Intelligence

1994

Monterrey Institute of Technology (ITESM)

Monterrey, Mexico

B.Sc. — Computer Science

1991

Skills

Core Competencies: Distributed Systems, High-Performance Computing, Fault-Tolerance, Scalable Infrastructure

Programming Languages: Scala, Python, C++, Java, C, Ruby, JavaScript, Scheme

ML/AI Tools: PyTorch (familiar), TensorFlow (familiar), CUDA (learning), Dataflow systems

Cloud/Infra: Docker, Kubernetes, Kafka, Hadoop, Hive, MapReduce, Jenkins, Linux

Performance Expertise: Profiling, Optimization, Concurrency, Load Balancing, Memory Management

Soft Skills: Collaborative communicator, analytical thinker, innovative problem-solver, continuous learner