Luis Quesada

Senior Engineering Manager

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SUMMARY

26+ years coding, 21+ years managing systems, 11+ years in industry, and 7+ years managing people. Technical expertise in distributed systems and user-facing products, strategic vision, and can-do attitude. I drive fast, impactful solutions, tackling complex problems with wide consensus and innovation.

SKILLS

Systems: Architecture, performance, automation, monitoring, load balancing, capacity, and data integrity.
Artificial Intelligence: Infrastructure and solutions, applied Generative Multi-modal Models.
Computer Languages: Go, Java, Python, JavaScript, TypeScript, PHP, Bash shell script, and SQL.
People: Organization design, career development, team health, coaching, presentation, and negotiation.
Languages: Spanish (Native), English (C2), German (B2), Swiss German (B1), and Esperanto (B1).

EXPERIENCE

Google, 2014 – currently

YouTube Infrastructure, Software Engineering — Senior Engineering Manager (L7)

- Improved the performance of high-throughput pipelines by 1000x. **Award**: Performance Excellence
- Extended an internal product with generalization and a customization framework to streamline onboarding of new use cases with limited engineering effort. **Award**: Engineering Excellence
- Developed infrastructure to run Large Language Models and integrated them to significantly increase the expressiveness of existing tooling. **Award**: Feature Excellence

Cloud Artificial Intelligence, Site Reliability Engineering — Senior Engineering Manager (L5→L7)

- Revamped capacity, monitoring, rollouts, data integrity, and frameworks across the entire developer organization, garnering top-down support, influencing the work of 50+ engineers, and leading the delivery, which improved the velocity, efficiency, and reliability of tens of products and >1K engineers. **Awards**: Cloud + Core + Google Tech Impact, Perfy, Tech Debt Busters, Tech Debt Busters
- Led the productionization of three large Cloud Artificial Intelligence products across reliability, scalability, security, and process requirements, and enabled their launch.

Datacenter Software, Site Reliability Engineering — Technical Leader/Engineering Manager (L5)

- Took over a project to revamp critical datacenter systems and landed it one year ahead of time.
- Troubleshot and addressed incidents with company-wide impact as part of on-call responsibilities.

Apps Storage, Site Reliability Engineering — Technical Leader (L4→L5)

- Improved the availability and efficiency of an internal storage system by implementing an A/B-testing solution and integrating it in the rollout with push-on-green capabilities.
- Responsible for the resource provisioning and capacity management of the storage backends of products with >1B external users. Developed, tested, and deployed a forecasting and provisioning model that led to significant resource savings and increased reliability.
- Led company-wide migration to a new storage service. **Award**: Feats of Engineering
- Responded to time-critical user-facing outages as part of deeply technical on-call responsibilities.
- Planned and performed high-risk high-complexity operations on live systems without downtime.

ACADEMIA **University of Granada**, 2010 – 2014

Department of Computer Science and Artificial Intelligence — Research Fellow

- Developed an on-the-fly compiler of compilers that takes as input a model consisting of Java classes and resolves ambiguities by applying syntactic constraints, semantic constraints, and probabilities.
- Researched model-based compilers applications to multilingual Natural Language Processing and to language prototyping.
- Directed a Master Thesis on a language for music prototyping. **Award**: Best Thesis (as director)
- Developed an unsupervised markerless 3-degree-of-freedom real-time motion tracking technique that runs on a single low-budget camera.
- Taught courses on Knowledge Engineering and Artificial Intelligence Models.
- Mentored two students doing software engineering internships at software companies.

STUDIES **University of Granada**, 2004 – 2010

Master in Research, Soft Computing and Intelligent Systems. GPA 9.3/10.

- Developed lexical analyzers and parsers with ambiguity support for model-driven data mining.

Bachelor of Science, Information Systems Engineering. GPA 8.7/10. **Award**: First of Class

Master of Science, Computer Science. GPA 9.2/10. **Awards**: First of Class, National Award, Honors

- Developed a Java code similarity detector that applies heuristics and aggregation at bytecode level and applied it to successfully identify plagiarised Java code. **Award**: Best Thesis

Bachelor of Science, Computer Systems Engineering. GPA 8.7/10. **Award**: First of Class

CERTIFICATES **Artificial Intelligence**

- Professional Certificate on Generative Artificial Intelligence Engineering — Coursera / IBM, 2024
- Professional Certificate on Artificial Intelligence Development — Coursera / IBM, 2024

Cybersecurity

- Professional Certificate on Cybersecurity — Coursera / Google, 2024
- CERTYRED Professional Certificate on Security — University of Salamanca, 2011
- Introduction to Auditing of Information Systems — University of Salamanca, 2010
- Security of Networked Information Systems — University of Granada, 2010

User Experience

- Professional Certificate on User Experience Design — Coursera / Google, 2024

Music

- Modern Musician Specialization — Coursera / Berklee College of Music, 2014
- Grade 5 Music Theory — The Associated Board of the Royal Schools of Music, 2013
- Grade 4 Singing — The Associated Board of the Royal Schools of Music, 2013

PUBLICATIONS

Distributed Systems

- Published a tech talk and an article on capacity management
- Published a tech talk on Google's production environment
- Published a tech talk on the Paxos algorithm

Generative Artificial Intelligence

- Developed ComfyUI nodes for inpainting only on masked area
- Developed ComfyUI nodes for interactive user interface
- Developed ComfyUI nodes for prompt combination and gallery generation

Computer Vision

- Designed and developed a 3D motion tracking solution that works on a single camera

Language Processors

- Designed and developed lexical analyzers, parsers, and a model compilers with ambiguity support
- Designed and developed parallel finite state machines for fast ambiguity-supporting lexical analysis
- Designed a domain-specific language for music prototyping

Reverse Engineering

- Decompiled a Java splicer and extended it with a command-line interface
- Developed a Java bytecode similarity detector
- Developed a manifest-based run-time subclass finder for Java
- Developed a tool to extract the Voxatron virtual console player into a stand-alone web

Network

- Developed several mIRC scripts on network exploration, hardening, and applications

Video games

- Developed a rogue-like videogame in JavaScript with no frameworks
- Developed a web-based multiplayer videogame in PHP+MySQL, with >10K players in the 2000s
- Developed an arcade maze videogame in Java
- Developed a physics engine and 3D world videogame prototype in Java
- Developed a top-down shooter videogame in GameMaker
- Developed a shooter videogame in C for the Game Boy Advance console
- Developed a dungeon videogame prototype in Java with custom physics and graphic engines
- Developed a physics engine and basic taxonomy in GameMaker
- Developed a dungeon videogame prototype in Go with custom physics and inventory engines
- Developed a mini-game for the Voxatron virtual voxel-based console
- Proposed hardware for voxel-based 3D object modeling

Team Management

- Co-authored an O'Reilly book chapter on managing team overload

Language Learning Resources

- Aggregated a dictionary across five languages

Literature

- Authored Spanish books for children on monsters, school anecdotes and science fiction

Music

- Produced indie rock albums: Crossing Lines and Years Away
- Produced synthesizer albums: Touching Point and Last Transmission
- Produced piano albums: Simple Piano and Transitions on Piano
- Produced several alternative rock albums using generative artificial intelligence.