FRANCISCO **MOYA PÉREZ**

Head of Architecture in Operational Experience – Inditex
PhD in Computer Science

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SUMMARY:

I am a technology enthusiast from Spain with a background spanning hands-on engineering and strategic leadership in software architecture. I have experience in startups and large enterprises, leading multidisciplinary teams and delivering robust technical solutions with AWS, GCP, OpenShift and cloud architectures. Currently, as Head of Architecture at Inditex, I design scalable systems that optimize logistics and supply chain operations. I recently completed my PhD in Computer Science, focusing on Distributed Ledger Technologies and IoT. I am passionate about leveraging my academic and industry experience to deliver impactful solutions and help teams reach their full potential.

EDUCATION:

PhD Computer Science - December 2019 - May 2025
University of Jaén (Spain)

BSc + MSc Computer Science - September 2009 - May 2014
University of Jaén (Spain)

WORK EXPERIENCE:

Head of Architecture - Operational Experience
Inditex, Spain - March 2025 - Present

As the Head of Architecture in Operational Experience at Inditex, I lead the design and implementation of software architectures that enhance operational efficiency and streamline logistics processes. My role focuses on aligning technology solutions with the unique challenges of logistics operations, ensuring scalability, reliability, and cost-effectiveness.

- **Operational Process Optimization:** Develop and implement architectural solutions tailored to improve Warehouse Management Systems, inventory control, and supply chain operations.
- **Cloud-Based Solutions:** Design serverless, scalable, resilient architectures leveraging AWS and Azure to support critical logistics operations.
- **Cross-Functional Collaboration:** Partner with operations teams, product managers, and stakeholders to align architectural decisions with business goals and operational needs.
- **Technology Integration:** Evaluate and integrate advanced technologies and systems, such as real-time data analytics, to optimize logistics workflows and enhance operational visibility.
- **Leadership and Mentorship:** Provide technical guidance to development teams, ensuring adherence to best practices and architectural standards.
- **Continuous Improvement:** Identify and implement strategies to improve operational performance, reduce costs, and enhance the overall logistics experience.

Senior Software Architect

Inditex, Spain - April 2023 - March 2025

Responsible for the software architecture involved in creating next-gen Warehouse Management Systems.

- Lead software architecture initiatives, collaborating with cross-functional teams to define serverless scalable and reliable solutions. Azure and AWS cloud providers.
- Analyze business requirements and technical constraints to design software architectures that meet performance and scalability goals.
- Provide technical guidance to development teams, ensuring adherence to best practices and architectural standards.
- Evaluate and recommend appropriate technologies and tools to achieve optimal technical solutions.
- Collaborate with product managers to align architectural decisions with business objectives.
- Participate in code reviews to ensure code quality and consistency with architectural principles.

Head Of Engineering

GeoDB, Spain - April 2022 - April 2023

Responsible for providing strategic leadership and technical direction to the engineering department at GeoDB, a Global Big Data Ecosystem powered by Blockchain Technology. Leveraging my deep expertise in Blockchain and Big Data, I drive the design, development, and delivery of cutting-edge products that exceed customer expectations and drive business success.

- Lead and manage a diverse team of engineers, fostering a culture of collaboration, creativity, and continuous improvement.
- Define and execute the engineering roadmap, aligning it with the company's strategic goals and vision.
- Oversee the end-to-end product development lifecycle, from ideation to deployment, ensuring quality and timeliness.
- Collaborate with cross-functional teams, including product management and design, to translate business requirements into technical solutions.
- Champion best practices in software development, architecture, and engineering processes to maintain high standards of code quality, scalability, and security.
- Stay abreast of industry trends and emerging technologies, making informed decisions on technology adoption and innovation.
- Build and nurture relationships with stakeholders, including clients and partners, to understand their needs and deliver exceptional solutions.
- Provide mentorship and professional growth opportunities for team members, enabling them to reach their full potential.
- Manage engineering budgets, resource allocation, and project timelines effectively.

Tech Advisor

GeoDB, Spain - August 2018 - April 2022

As Tech Advisor at GeoDB from the company's inception, I played a key role in defining and executing the technical strategy that laid the foundation for the company's growth and innovation. I worked closely with founders and main stakeholders to transform a disruptive vision into a solid and scalable technological reality.

- Led the definition of the technology strategy, selecting core technologies, architectures, and methodologies aligned with business objectives from day one.
- Provided ongoing technical guidance to development teams, ensuring best practices in engineering, security, and scalability.
- Evaluated and recommended innovative tools and frameworks, especially in Big Data and Blockchain, to keep GeoDB at the forefront of the industry.
- Acted as a bridge between technical and non-technical teams, facilitating communication and informed decision-making.
- Built the technical team from the ground up, attracting, assessing, and onboarding key engineering talent, and fostering a strong multidisciplinary engineering culture.

Head of Architecture

Wave Location Technologies, Spain - January 2018 - April 2022

As Head of Architecture at Wave Location Technologies provided guidance, direction, and technical leadership to a multidisciplinary engineering team to deliver high-quality software solutions and achieve outstanding results.

- Designed and defined the entire company architecture in close collaboration with the CTO, ensuring a robust, scalable, and future-proof technical foundation.
- Managed a team of 18–22 engineers, including iOS/Android, Backend, Fullstack, DevOps, and QA specialists.
- Collaborated directly with the CTO, CEO, and CMO to translate product requirements into actionable technical plans and prioritized tasks.
- Oversaw the adoption and implementation of modern technologies such as AWS, GCP, serverless architectures, GraphQL, Django, and microservices.
- Promoted a collaborative and innovative environment focused on continuous improvement.
- Ensured alignment between business objectives and technical execution, driving the successful delivery of complex projects.

Android Team Lead

Wave Location Technologies, Spain - February 2016 - January 2018

Led a team of 4 Android engineers, delivering high-quality mobile solutions across 5 different projects, some of which served millions of active users. Responsible for coordinating development efforts, ensuring code quality, and driving the successful launch and maintenance of large-scale Android applications.

- Led the transition of all Android projects from Java to Kotlin, adopting MVVM architecture to improve code maintainability and scalability.
- Oversaw the end-to-end development process, from planning and architecture to deployment and support, using Clean Architecture principles.
- Specialized in real-time location services, implementing advanced geolocation features for apps with high user engagement.
- Ensured adoption of the latest Android versions and leveraged new platform capabilities to enhance app performance and user experience.
- Fostered collaboration and knowledge sharing within the team, promoting best practices and continuous improvement.
- Worked closely with product managers and other stakeholders to align technical solutions with business goals.
- Mentored team members, supporting their professional growth and technical development.

Senior Android Developer
Boizu, Spain - December 2015 - February 2016

Worked as a Senior Android Developer at Boizu, a mobile app enabling users to make free calls to any number in exchange for viewing ads. Contributed to the rapid development and optimization of the Android application during its launch phase.

- Developed and maintained core app features, focusing on call functionality and seamless ad integration.
- Optimized app performance and user experience for a large and growing user base.
- Collaborated with cross-functional teams to deliver new features and resolve critical issues under tight deadlines.
- Ensured code quality and adherence to best practices in Android development.

Mobile Developer
Seeketing, Spain - October 2015 - December 2015

Worked as a Mobile Developer at Seeketing, a company specializing in proximity marketing and offline analytics solutions for retail and physical spaces.

- Contributed to the development and optimization of mobile applications that enabled real-time customer engagement and analytics.
- Developed and maintained features for mobile apps focused on proximity detection and in-store analytics.
- Integrated technologies for real-time notifications and location-based marketing campaigns.
- Collaborated with cross-functional teams to deliver solutions that bridged online and offline customer behavior.
- Ensured app performance, reliability, and adherence to best practices in mobile development.

Project Research Associate

University of Jaén, Spain - April 2014 - October 2015

Participated in various research projects within the Intelligent Systems Based on Fuzzy Decision Analysis group at the University of Jaén, focusing on the development of intelligent systems to support complex decision-making under uncertainty and imprecision. My work was primarily oriented towards the application of these research lines to mobile platforms.

- Contributed to the design and implementation of mobile applications leveraging fuzzy decision analysis techniques.
- Contributed to peer-reviewed publications and conference presentations.
- Collaborated with multidisciplinary teams to explore innovative solutions in artificial intelligence and decision support systems.
- Participated in the publication and dissemination of research findings related to intelligent systems and mobile technologies.
- Gained experience in applying advanced AI methodologies to real-world problems, particularly in the context of mobile app development.

Android Developer

Timpik, Spain - July 2013 - December 2013

Worked as an Android Developer at Timpik, a social platform for organizing and managing sports events. Contributed to the development and improvement of the Android application, enhancing user experience and app functionality.

- Developed new features and maintained the Android app to support community engagement and event management.
- Collaborated with designers and backend developers to deliver seamless and intuitive user experiences.
- Ensured app stability, performance, and adherence to Android best practices.
- Participated in troubleshooting, bug fixing, and optimizing the app for a growing user base.

RESEARCH PUBLICATIONS:

Energy: reducing latency in IoT DLTs for AI-driven real-time solutions

Emerald Publishing Limited · June 2025

Integrating Internet of Things (IoT) networks with distributed ledger technology (DLT) and artificial intelligence (AI) presents critical challenges, particularly related to latency, scalability, hardware constraints and data security. Efficient data ingestion and validation are essential to enable real-time AI processing. The main contribution of this paper is the proposal of the Energy consensus algorithm, designed to minimize both latency and energy consumption in such environments.

A Transparent and Ecologically Sustainable DLT-based Approach for Tendering Processes
Journal of Universal Computer Science · March 2025

Tendering processes aim to provide transparency in the trade of services or goods but often fall short, leading to corruption and loss of trust. The emergence of Distributed Ledger Technologies (DLTs), such as blockchain, has prompted research into their application for enhancing transparency in tendering. However, adopting DLT usually incurs extra costs, network fees, and high carbon footprints. This paper conducts a Multi-Criteria Decision Making (MCDM) process to select the most suitable DLT for tendering processes. As a result, a novel tendering process based on IOTA is proposed, which improves transparency, ensures ecological sustainability, and avoids extra costs. The IOTA-based approach also fosters collaboration between human and computer capabilities in selecting the tender winner. Our method is compared with existing approaches, demonstrating the highest transparency.

ASPMi: An Adaptable SPAM Protection Mechanism for IoT Scenarios
Proceedings of the International Conference on Ubiquitous Computing and Ambient Intelligence (UCAmI 2024) · November 2024

The integration of resource-constrained IoT devices with Distributed Ledger Technologies (DLTs) like IOTA faces challenges due to the computational demands of Proof of Work (PoW) for SPAM protection. This paper proposes ASPMi, a flexible mechanism that lets devices perform PoW themselves or delegate it to the network for a fee, enhancing both flexibility and security. Results show ASPMi improves transaction validation time and reduces energy use. Future work will focus on optimizing delegation and exploring new incentives to strengthen IoT-DLT integration.

DLT Architecture Proposal for IoT Applications Based on Data Streams
Smart and Secure Embedded and Mobile Systems · June 2024

Millions of sensor-based devices continuously transmit data, which is vital for real-world problem-solving due to their low cost and easy implementation. However, securing data during transfer and transformation for analysis remains a challenge. Distributed Ledger Technologies (DLT) can enhance resilience and prevent data manipulation in these systems. This paper introduces a platform that collects sensor data streams and publishes them on a DLT infrastructure, detailing its interface layers for data gathering and publication.

CertifIoT: An IoT and DLT-Based Solution for Enhancing Trust and Transparency in Data Certification
Proceedings of the 15th International Conference on Ubiquitous Computing & Ambient Intelligence (UCAmI 2023) · November 2023

Ensuring data accuracy, reliability, and integrity is crucial in fields like medical and performance testing, but traditional centralized methods struggle to guarantee data veracity or assign liability for errors. This paper presents CertifIoT, a DLT-based solution for certifying IoT data streams, enhancing transparency and clarifying data provenance. Built on the Phonendo Framework, CertifIoT introduces new features for data certification, an extensible data model for interoperability, and a protocol to boost trust in certified data.

Phonendo: a platform for publishing wearable data on distributed ledger technologies

Wireless Networks · August 2023

Nowadays, Internet of Things (IoT) devices, especially wearable devices, are commonly integrated into modern intelligent healthcare software. These devices enable medical practitioners to monitor pervasively patients' parameters outside the clinical environment. However, the ease of manipulating wearable devices and their data streams raises concerns regarding patient privacy and data trust. Distributed ledger technologies (DLT) offer solutions to enhance resistance against information manipulation and eliminate single points of failure. By leaveraging DLT, wearable-based solutions can be developed with a wider range of capabilities. This paper carries out an analysis of shortcomings, limitations, potential applications and needs in the medical domain, to introduce Phonendo 1.0, a DLT–IoT-based platform designed to capture data streams from wearable devices and publishing them on a distributed ledger technology infrastructure. The architecture and its difference services are justified based on the identified needs and challenges in the medical domain.

Phonendo: A Platform for Publishing Wearable Data on DLT

Lecture Notes in Networks and Systems · November 2022

Modern health software relies on data from wearable devices for continuous remote patient monitoring, offering low-cost and versatile solutions to health problems. However, securing data throughout collection, transformation, and analysis remains a major challenge. Distributed Ledger Technologies (DLT) can enhance security and resilience against data manipulation. This paper introduces Phonendo, a platform for collecting wearable device data and publishing it on a DLT infrastructure, focusing on its data collection and publication interface layers.

Generation of a Partitioned Dataset with Single, Interleave and Multioccupancy Daily Living Activities

Ubiquitous Computing and Ambient Intelligence. Sensing, Processing, and Using Environmental Information (UCAmI 2015) · December 2015

Advances in electronic devices have enabled the creation of smart environments that aim to improve daily life by recognizing inhabitants' activities and adapting accordingly. Since testing activity recognition in real settings is costly, researchers often use datasets from smart environments. However, existing datasets rarely cover single, interleaved, or multi-occupancy activities in one resource. This work presents a comprehensive dataset using 14 sensors and 9 daily activities, divided into partitions with different activity classes to address this gap.

Activity recognition by means of rule-based inference engine based on fuzzy linguistic approach

The 13th Scandinavian Conference on Artificial Intelligence · November 2015

Knowledge-driven approaches are effective for activity recognition in smart homes due to their semantic clarity and easy initialization, but they struggle with temporal information and uncertainty. To address this, we propose a fuzzy linguistic, rule-based methodology that allows experts to model uncertainty using linguistic terms, improving activity recognition from sensor data.

Reducing the Response Time for Activity Recognition Through use of Prototype Generation Algorithms
13th International Conference on Smart homes and health Telematics, ICOST 2015 · June 2025

The nearest neighbor approach is widely used for sensor-based activity recognition but faces challenges like slow response time, noise sensitivity, and high storage needs, mainly due to large data sizes. Prototype generation algorithms have been developed to address these issues by creating artificial prototypes that represent the data more efficiently. These algorithms help reduce dataset size, improve response time, and maintain or even increase classification accuracy. In this work, several prototype generation methods based on positioning adjustment are evaluated and compared to the standard nearest neighbor approach. Results show similar accuracy with reduced data size, supporting the use of these algorithms to enhance activity recognition performance.

Feature sub-set selection for activity recognition
13th International Conference on Smart homes and health Telematics, ICOST 2015 · June 2025

The delivery of Ambient Assisted Living services, specifically relating to the smart-home paradigm, assumes that people can be provided with help, automatically and in real time, in their homes as and when required. Nevertheless, the deployment of a smart-home can lead to high levels of expense due to configuration requirements of multiple sensing and actuating technology. In addition, the vast amount of data produced leads to increased levels of computational complexity when trying to ascertain the underlying behavior of the inhabitant. This contribution presents a methodology based on feature selection which aims to reduce the number of sensors required whilst still maintaining acceptable levels of activity recognition performance. To do so, a smart-home dataset has been utilized, obtaining a configuration of sensors with the half sensors with respect to the original configuration.

Collaborative Online Radio for Android
I International Meeting of Young Researchers on Heritage, Baeza (Spain) · November 2014

The paper presents the design and implementation of a collaborative online radio application for Android devices. This app allows users not only to listen to streaming radio but also to participate actively by sharing audio content and collaborating in real time. The system integrates features such as live broadcasting, user interaction, and content sharing, aiming to create a more engaging and community-driven radio experience. The architecture leverages Android’s capabilities for audio processing and network communication, and the paper discusses both the technical challenges and solutions encountered during development. The result is a flexible platform that encourages user collaboration and expands the traditional concept of online radio.