# Carlos Eugenio Lopes Pires Xavier Torres

**Principal Software Engineer and Engineering Leader | Mobile, Full Stack, and Applied AI**

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## Summary

Senior principal software engineer and engineering leader who designs, builds, and ships mobile, web, and AI products at enterprise scale. Technical lead for Oracle Health's Clinical AI Agent, an agentic, LLM-powered assistant used by thousands of physicians, nurses, and patients in hospitals. Deep native and cross-platform mobile expertise (Swift, SwiftUI, Kotlin, React Native) combined with full stack delivery (TypeScript, React, Node.js, Python, Go) and large-scale data platforms (Spark, AWS, OCI). Founded and led a software company, managing engineering teams and client delivery in the U.S. and Brazil. Ph.D. candidate researching LLMs, NLP, and human-centered AI. U.S. Citizen.

## Skills

- **Mobile:** iOS (Swift, SwiftUI, Objective-C, WidgetKit, Live Activities, StoreKit 2), Android (Kotlin, Java), React Native, Flutter (Dart), App Store and Google Play release management
- **Full Stack:** TypeScript, JavaScript, React, Node.js, Python, FastAPI, Go, HTMX, Firebase, REST APIs
- **AI and ML:** LLMs, agentic AI, AI agents and assistants, prompt engineering, RAG, fine-tuning, NLP, generative AI, Firebase Genkit, reinforcement learning, ML pipelines
- **Cloud and Data:** AWS, OCI, Azure, Docker, Apache Spark, ETL, PostgreSQL, MySQL, Oracle Database, MongoDB, NoSQL
- **Leadership and Practices:** technical leadership, architecture and technical design, mentoring, team and project management, product management, Agile, AI-assisted development, DevOps and production support, Git, GitHub, Jira

## Experience

**Oracle** | Remote | Jan 2021 – Present

**Senior Principal Application Software Engineer, Oracle Health & AI** | Feb 2024 – Present

- Lead the technical design, implementation, and delivery of the Clinical AI Agent (CAA), bringing agentic AI capabilities to physicians through multimodal conversations that move seamlessly across voice, text, and touch.
- Tech lead for the CAA mobile team, the conversational AI arm of Oracle Health & AI, building LLM-powered assistants and applying advanced prompt engineering to improve conversational accuracy, context retention, and user intent resolution.
- Became the team's main technical lead after bringing mobile expertise to a group composed mostly of web engineers, and shipped the first CAA release to the App Store and Google Play on an accelerated timeline.
- Maintain the CAA app used by thousands of physicians, nurses, and patients in hospitals, and serve in the DevOps rotation monitoring production and improving the customer experience.
- Introduced AI-assisted engineering practices and generative AI tooling that compressed feature delivery cycles while meeting rigorous compliance and clinical safety standards, including government clearance for VA and DoD/DoW deployments.
- Build with React Native and TypeScript alongside native iOS and Android code in Swift, SwiftUI, Objective-C, and Kotlin.
- Mentor engineers and support their growth within an Agile team.

**Principal Software Engineer, Oracle Advertising** | Jan 2021 – Feb 2024

- Led AdTech product development across Python, Go, and Spark services, AI/ML pipelines, and ETL on AWS and OCI, solving internet-scale data problems.
- Built a self-service data investigation platform (React, TypeScript, Python, FastAPI, OCI Data Flow, Spark, NoSQL) that let anyone query raw logs and impression-level Parquet files; adopted by many teams and widely praised by stakeholders.
- Delivered the platform's complete workflow: filter-based query builder, job submission with live progress tracking, job history and re-runs, result downloads, and Slack alerts on completion.
- Built a full-stack campaign management web app (JavaScript, TypeScript, Oracle JET, React, Node.js, MySQL) that helped customers automate campaigns and grow revenue.
- Mentored engineers and supported their growth within an Agile team.

**NeoTreks, Inc.** | Castle Rock, CO | Feb 2020 – Jan 2021 – **Senior Software Engineer**

- Consulted and negotiated with clients, and led full application development cycles from requirements to delivery.
- Built full-stack solutions for web, desktop, and mobile (iOS and Android).
- Maintained and improved legacy codebases for client systems.

**Cacira, Inc.** | Pompano Beach, FL | Nov 2014 – Dec 2019 – **Founder and Director of Software Engineering**

- Expanded the company from Brazil to the U.S. and managed projects, products, and engineering teams in both countries.
- Delivered custom iOS, Android, and web applications for clients using Swift, Objective-C, Kotlin, Flutter, and Node.js.
- Owned mobile architecture, backend development, and project management across the full product lifecycle.

**Earlier Experience**

- **Founder and Director of Software Engineering, Cacira Tecnologia** (Fortaleza, Brazil): founded a software company and built a team of engineers serving startups, banks, and media groups using Lean Startup methods and MVP validation.
- **Second Lieutenant and IT Officer, Brazilian Army** (Fortaleza, Brazil): ran the IT department of a military organization and led a team of five; honorable discharge.
- **Project Manager, Synapsis Brazil (Tivit)** (Fortaleza, Brazil): led a software team building billing and commercial systems for electric utilities, managing scope, stakeholders, timelines, and budget.
- **Senior Software Engineer, Vodafone Portugal** (Lisbon, Portugal): built ASP.NET, C#, and SQL Server web applications and intranet decision-support systems for a global mobile carrier.

## Independent Projects

- **MyKeepass:** macOS menu bar password manager for KeePass databases, published on the Mac App Store; version 2.0 is a complete rewrite, free to download. Visit: cetorres.com/mykeepass.
- **Carrier AC control:** An open-source macOS menu bar app that shows the current temperature of each Carrier unit on your account. Clicking it opens a panel with details for each unit. Visit: github.com/cetorres/carrier-ac-control.
- **Skimr:** AI-powered short-form learning iOS app in SwiftUI with swipeable cards, using Claude, Gemini, and Firebase Genkit for content and image generation. Currently in closed beta on TestFlight.
- **AI Buddy:** A command-line interface (CLI) made with Go that is an AI tool to help solving problems using prompt engineering from a set of crowdsourced AI prompts. Visit: github.com/cetorres/ai-buddy.
- **Notes:** a note-taking web app, made with Pocketbase, Go, TypeScript, and SQLite. Visit: notes.cetorres.com.

## Education

**Ph.D. Candidate, Computer Science** | University of Colorado Colorado Springs (UCCS) | 2024 – Present

- Research in large language models, NLP, and human-centered AI, focused on methods that amplify human decision-making and keep AI reliable in mission-critical applications.

**M.S. in Computer Science** | University of Colorado Colorado Springs (UCCS) | 2021 – 2024

- Colorado Cybersecurity Scholarship recipient (2023, 2024); Graduate Research Assistant.
- Built ACSP4HR, an NSF-funded secure and privacy-preserving data sharing platform for data science computations, presented at the ISTSS 39th Annual Meeting (acsp4hr.cetorres.com).
- Projects in homomorphic encryption for healthcare security and reinforcement learning agents (Q-learning, Deep Q-learning), including product recommendation for online advertising (github.com/cetorres).

**MBA in Project Management** | Fundação Getulio Vargas (FGV), Brazil

- Focus on project governance, stakeholder negotiation, resource allocation, and organizational strategy for complex enterprise delivery

**B.S. in Computer Science** | Universidade Federal do Ceará, Brazil

## Languages

English (fluent), Portuguese (native), Spanish (conversational)