

CARLOS EUGENIO LOPES PIRES XAVIER TORRES

💻 Software Engineer, Engineering Director

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SUMMARY

Highly experienced software engineer with an extensive track record in complete software solutions for mobile, web, and desktop platforms. Proven expertise in leading teams, client engagement, and the entire software development lifecycle, leveraging AI-assisted coding workflows to enhance productivity. Strong background in engineering management, startups, business modeling, generative AI, and prompt engineering. Master's degree in Computer Science and Ph.D. candidate at UCCS, researching AI, machine learning, NLP, and LLMs. Interested in positions such as software engineering manager/director, or principal software engineer for web, mobile, and AI solutions. U.S. citizen.

EXPERIENCE

Oracle

Feb 2024 – Present

Principal Application Software Engineer

Orlando, FL (remote)

- At Oracle Health & AI, leading technical design, implementation, and delivery of the Clinical AI Agent (CAA), helping shipping Agentic AI capabilities into the hands of physicians. CAA provides rich multi-modal conversational experiences allowing for seamless transition across voice, text, and touch interfaces. Responsible for innovating a new paradigm of interacting with backend AI/ML-powered bots.
- Tech-leading the Clinical AI Agent (CAA) mobile team, the conversational AI arm of Oracle Health & AI. Building AI digital assistants powered by powerful cloud-based LLMs, utilizing advanced prompt engineering techniques to optimize conversational accuracy, context retention, and user intent resolution.
- Brought mobile app development expertise to the team, originally mainly composed of web engineers, becoming the main tech lead. Made possible, in a very short period of time, the release of the first version of the Clinical AI Agent to the app stores, by navigating successfully the distribution process.
- Successfully maintaining the Clinical AI Agent mobile app being used by thousands of users (doctors, nurses, and patients) in the hospitals. Part of the DevOps team rotation, actively monitoring and improving customer experience.
- Integrating generative AI strategies and AI-assisted coding tools into the development workflow to accelerate feature delivery and maintain high code quality standards.
- Implemented AI-assisted engineering practices to compress feature delivery cycles while maintaining rigorous compliance and clinical safety standards. Including government clearance for VA and DoD (DoW) departments.
- Using the latest mobile development frameworks for iOS and Android platforms with JavaScript/TypeScript (React Native), and natively using Swift, SwiftUI, Objective-C, Java, and Kotlin.

Oracle

Jan 2021 – Feb 2024

Principal Software Engineer

Colorado Springs, CO (remote)

- Led AdTech product development at Oracle Advertising using Python, Spark, Go, AI/ML pipelines, ETL, AWS, and OCI.
- Built a popular internal full-stack web app that helped other teams access our team's data, improving productivity. Used React, TypeScript, Python, FastAPI, OCI, Dataflow, Spark, and NoSQL database. It facilitated the data investigation on raw logs and impression level files (parquet files) by anyone. Via a simple and intuitive web UI in React, the users could create queries with various filtering options and submit jobs to be executed. The results were then presented, and they could save the data files, re-run a job, search for past run jobs. They could also follow the job running (with a running timer) and be alerted in their Slack account when the job finish. The web application was used by many different teams and received a lot of praise by all stakeholders.
- Built for the previous team a successful full-stack web application for campaign management that helped our customers automate campaigns and generate more revenue. Used JavaScript, TypeScript, Oracle JET, React, NodeJS, and MySQL.
- Provided innovative solutions for internet-scale data problems using agile methodologies.
- Mentored and helped other engineers to grow.

NeoTreks, Inc

Feb 2020 – Jan 2021

Senior Software Engineer

Castle Rock, CO

- Consulted and negotiated with clients, leading full application development cycles.
- Created full-stack solutions (for web, desktop, and mobile) for our customers.
- Applied expertise in mobile development (iOS and Android) and legacy code maintenance.

Cacira, Inc

Nov 2014 – Dec 2019

Director of Software Engineering

Pompano Beach, FL

- Focused on mobile solutions, project management, and backend development.
- Developed iOS, Android, and web applications using Swift, Objective-C, Dart, Kotlin, and Node.js, delivering successful products to our customers.
- Delivered complete solutions for customers, tailored for their businesses and custom requirements.
- Successfully managed projects, products, and teams in the U.S. and abroad.

Cacira Tecnologia

Jul 2010 - Nov 2014

Director of Software Engineering

Fortaleza, Brazil

- Created a startup to provide solutions for other startups and larger companies such as banks and media groups.
- Business development experience, with lean startup, mentoring, canvas business modeling, prototyping, validation, MVP.
- Developed mobile software solutions with Swift, Objective-C, Dart, and Kotlin.
- Analyzed software specifications and created database structures.
- Successfully managed projects, products, and people.

TECHNICAL SKILLS

- **Programming Languages:** Python, Go (for TUI and CLI), JavaScript, TypeScript, Swift, Kotlin, Java, Objective-C, Dart.
- **Management:** Business/Product/Team/Time/Project management, Jira, leadership, goal-oriented, communication.
- **Full stack web development:** NodeJS, Python, Go, JavaScript, TypeScript, React, HTMX, Oracle JET.
- **Mobile development:** iOS, Android, React Native, Flutter.
- **Database:** Designing, development, and analysis (MySQL, Postgres, Oracle, NoSQL, MongoDB).
- **Cloud/DevOps:** AWS, Azure, OCI, Digital Ocean, Git, Docker, GitHub, BitBucket.
- **AI/ML:** ML Algorithms, LLMs, NLP, Reinforcement Learning, Generative AI, Prompt Engineering, Agents, and Assistants.

EDUCATION

University of Colorado, Colorado Springs

Ph.D. in Computer Science (In Progress)

2024 – Present

Colorado Springs, CO

- Research Focus: Large Language Models, Natural Language Processing, and Human-Centered AI, investigating methods to amplify human decision-making and ensure reliability in mission-critical applications.

University of Colorado, Colorado Springs

Master of Science in Computer Science

2021 – 2024

Colorado Springs, CO

- Honors: Colorado Cybersecurity Scholarship recipient (2023, 2024), Graduate Research Assistant.
- Published Research: NSF-funded privacy-preserving data sharing platform (ACSP4HR), presented at the ISTSS 39th Annual Meeting. Available at <https://acsp4hr.cetorres.com>. Source code and more info are available on [GitHub](#).
- Cryptography: Homomorphic Encryption: What Is It and How Can It Help Secure Healthcare Systems. [GitHub](#).
- AI/ML project: Reinforcement Learning - Maze Agent Training with Q-Learning. Available on [GitHub](#).
- AI/ML project: Reinforcement Learning - Parking Lot Agent Training with Q-Learning. Available on [GitHub](#).
- AI/ML project: Reinforcement Learning - Parking Lot Agent Training with Deep Q-Learning. Available on [GitHub](#).
- AI/ML project: Product Recommendation in Online Advertising with Reinforcement Learning. Available on [GitHub](#).

Fundacao Getulio Vargas

Master of Business Administration (MBA) in Project Management

Fortaleza, Brazil

- Curriculum Focus: Project governance, stakeholder negotiation, resource allocation, and organizational strategies essential for complex enterprise delivery.

Universidade Federal do Ceara

Bachelor of Science in Computer Science

Fortaleza, Brazil

- Early research focus on Expert Systems and Artificial Intelligence.

LANGUAGES

- English (Fluent)
- Portuguese (Native)
- Spanish (Conversational)

INTERESTS

- AI / ML
- Science and technology
- Charity, philosophy, and spirituality
- Music (play drums, guitar)
- Home automation