

CARLOS QUIHUIS

carlos.quihuis.dev@gmail.com | linkedin.com/in/carlos-quihuis-190b431aa | github.com/Kiwis01

EDUCATION

Arizona State University

Bachelor of Science in Computer Science

August 2020 - May 2025

- Relevant Coursework:** Operating Systems, Machine Learning, Natural Language Processing, Computer & Network Forensics, Distributed Systems, Information Assurance, Web Development with Java, Embedded Microprocessor Systems.

EXPERIENCE

University of Phoenix

Software Engineering Intern

Tempe, AZ, USA

May 2025 - August 2025

- Built a **pull request agent (Bitbucket API, LangChain, Qdrant)** that analyzed code changes and suggested inline fixes, enabling tech leads to catch logic errors and coding mistakes in ~10 seconds.
- Enhanced with a **Retrieval-Augmented Generation (RAG) pipeline** to detect **cross-file impacts** missed by surface level checks.
- Implemented **Amazon SQS async pipelines** to resolve webhook timeouts, reducing CI/CD (Continuous Integration/Continuous Deployment) delays by ~30 seconds.
- Designed and deployed an **AWS access key audit system (Java, Kafka, S3)** monitoring 100+ keys, uncovering 62 orphaned policies and 30 missing team information entries, leading to its adoption as a company-wide standard for security compliance.
- Led **incident response** during Cognito/credentials deprecations, implemented **2 new security measures** and eliminated system downtime.

City of Phoenix

Software Engineering Intern

Phoenix, AZ, USA

September 2024 - April 2025

- Optimized **SQL queries** and restructured database schemas, reducing asset lookup times from 72 minutes to under 5 seconds (~7,000x faster) while supporting a large-scale **government database migration** with zero downtime.
- Increased **asset identification output by 3x** through better indexing and tagging workflows.
- Consolidated **200+ documentation resources** into a single linked system, reducing retrieval time from hours to under a minute.

PROJECTS & OUTSIDE EXPERIENCE

Healthy | heathy.org

AI Engineer & CTO

June 2023 - Present

- Co-founded and led the development of a **unified healthcare platform** now used in pilot programs across public hospitals in Hermosillo, Mexico. Doctors can now access complete patient **health records, lab reports, and imaging (DICOM)** through a single interface.
- Conducted **42,000+ pilot tests** with physicians, incorporating their feedback to fine tune usability, workflows, and accuracy.
- Integrated **AI tools (YOLOv8 + MedSAM + MONAI)** to detect, classify, and segment brain tumors in medical images. Achieved **88.9% accuracy** while making anomalies clearly visible across multiple scan layers.
- Leveraged **MedGemma** to interpret textual reports alongside the imaging results, providing multimodal diagnostic insights.
- Deployed on **AWS with HIPAA-compliant architecture**, following engineering standards, **CI/CD pipelines**, and security best practices to ensure scalability and reliability.

Medical Assistant for pre diagnoses | Chmltech Ltd.

Lead Developer

August 2024 - April 2025

- Designed a **mixture-of-agents architecture** (independently, before tools like LangChain) where a supervising agent coordinated multiple specialized agents through structured prompts.
- Built a custom **multimodal pipeline** combining MRI imaging and patient records, enabling richer **pre-diagnostic support** for doctors.
- Leveraged **Roboflow and React** for the application layer, while integrating **PyTorch** models to classify brain tumors and extract relevant medical features.
- Deployed a **prototype medical assistant** capable of providing AI-powered insights from both imaging and textual medical data, laying the groundwork for future clinical testing.

PUBLICATIONS

- Co-author:** [XR for Educational Anatomy: an Immersive human atlas with chatbot](#) - University of Paris & UNESCO, XR4Health25 (2025). Presented a VR/AR system for medical imaging education.

TECHNICAL SKILLS

Programming Languages: Python (pandas, NumPy, Matplotlib, scikit-learn, PyTorch, Pydicom), Java, C/C++

Developer Tools: Git, Docker, Linux/Unix, Bitbucket, AWS, Spacelift, Postman, Apache Kafka, Unity

Databases: SQL (MySQL, PostgreSQL), MongoDB, Vector Databases (Qdrant, Chroma)