

JUAN C. HUILLCAS

Junior Cloud & AI Engineer | Electrical Engineer

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PROFESSIONAL PROFILE

Electrical Engineering professional specializing in Computer Science, focused on designing and deploying cloud-native and AI-powered solutions on AWS. I work with scalable architectures, automation, security controls, and data processing. Through personal and academic projects, I build end-to-end cloud architectures integrating AI inference, serverless services, monitoring, and best practices in cost, performance, resilience, and security. Motivated by learning, experimentation, and the impact of cloud-driven innovation.

EDUCATION AND CERTIFICATIONS

Computer Science

Universidad Nacional de Ingeniería, Lima, Peru | 2023 - Present

Electrical Engineering

Universidad Nacional del Centro del Peru, Junín, Peru | 2023

AWS Certified Cloud Practitioner

Amazon Web Services, Online | Date issued: September 09, 2025

AWS Certified AI Practitioner

Amazon Web Services, Online | Date issued: October 01, 2025

FEATURED PROJECTS

RAG-Enhanced PDF Query Application

Developed a cloud-hosted application enabling PDF upload, text chunking and semantic search using RAG. Implemented embeddings, vector retrieval, and LLM-based context generation, improving knowledge extraction speed and accuracy. Containerized with Docker and deployed on AWS for scalable inference, integrating Flask APIs, Redis caching, and prompt optimization techniques.

Technologies: AWS Lightsail, Docker, Flask, Python, OpenAI API, Redis, Semantic Search, LLMs, Vector Indexing

Global Static Website on AWS (S3 & CloudFront)

Deployed a secure, globally-distributed static website on AWS using IaC (CloudFormation), implementing CDN caching, WAF edge protection, origin access control, and observability via CloudWatch, achieving low-latency delivery to US, CA, PE.

Technologies: AWS S3, CloudFront, AWS WAF, CloudFormation, CloudWatch, JavaScript, HTML, CSS

Sudoku Vision – CV & Deep Learning App

Built an end-to-end web app that detects Sudoku grids via computer vision, classifies digits with a CNN, and solves puzzles through a backtracking algorithm. Deployed via Streamlit to enable image upload and instant solution visualization.

Technologies: Python, OpenCV, TensorFlow/Keras, CNN, Streamlit

TECHNICAL SKILLS

Cloud Platforms: AWS (EC2, S3, IAM, Lambda, CloudFront, CloudWatch, CloudFormation), Azure Fundamentals, GCP Basics

AI & Machine Learning: Python (NumPy, Pandas, Scikit-learn), Embeddings, RAG, text classification, Computer vision basics, model evaluation

MLOps (Foundational): Docker, Experiment tracking, Metrics monitoring, Model training pipelines, CI/CD fundamentals

Cloud Architecture & DevOps: Infrastructure as Code (Terraform basics, CloudFormation templates), Automation scripting, Logging / Observability, Scalable architectures

CI/CD & Observability: GitHub Actions, GitLab CI, Jenkins (basics), Prometheus (basics), Grafana (basics)

Programming & Scripting: Python, Bash, YAML

Data & Analytics: SQL, ETL concepts, Data preprocessing, Cloud storage architectures, Basic data modeling

Databases: PostgreSQL, MySQL, DynamoDB (basics)

Core Competencies: cloud security, cost optimization, scalability, observability, automation, CI/CD, IaC, serverless, containerization, monitoring

ADDITIONAL CERTIFICATIONS

- CTIC UNI - AWS Architect 1
- AWS Academy Graduate - Machine Learning Foundations
- AWS Educate - Introduction to Generative AI
- OpenCV - Mastering OpenCV with Python
- OpenCV - OpenCV Bootcamp
- CTIC UNI - Cloud Computing - AWS, Azure, Google Cloud
- IBM SkillsBuild - Artificial Intelligence Fundamentals
- IBM SkillsBuild - Agile Explorer
- Datapath - Machine Learning Engineer
- Datacamp - Deep Learning with PyTorch
- Datacamp - Transformer Models with PyTorch
- Association for Computing Machinery (ACM) - AWS AI Practitioner

LANGUAGES

Spanish - *Native*

English - *Intermediate*