

# LOREN COSSETTE, Ph.D. (c)

AI Automation Architect | Strategy to Production | Public Sector & Enterprise GenAI  
San Antonio, TX | 210.836.4789 | lorentcossette@gmail.com | [LinkedIn](#) | [GitHub](#)

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## PROFESSIONAL SUMMARY

I define the AI strategy and then write the code -- a rare combination that bridges the gap between GenAI's potential and operational reality.

As the sole AI automation engineer for Multnomah County, I own the full lifecycle -- problem discovery, stakeholder alignment, architecture, code, deployment, and change management. Recent work includes automating WCAG compliance triage, replacing \$150K-\$450K in manual labor with a 6-hour unattended pipeline (90% scope reduction across 56,567 files), and a multi-agent content platform that saved \$35K and 79 days of manual effort. Previously, I spearheaded USAA Bank's first enterprise AI & Data Strategy across a \$126B portfolio, cutting decision cycle times by 64% and delivering \$2.7M in Q1 impact.

I build production-grade agentic systems, RAG pipelines, and serverless infrastructure -- while also establishing governance frameworks, training executives at UT Austin and Johns Hopkins, and publishing peer-reviewed AI research. Deep expertise in NLP, deep learning, prompt engineering, and end-to-end ML model evaluation. PhD candidate. Prosci-certified. SHRM-SCP. 20-year military career culminating at E-9 (top 1%).

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## CORE COMPETENCIES

**AI Engineering:** Agentic Systems (CrewAI, LangGraph, Google ADK, MCP) | RAG & Vector Search | LLM Deployment (Gemini, Claude, GPT, Mistral) | NLP | Deep Learning | Prompt Engineering | MLOps | Fine-Tuning | Model Evaluation & A/B Testing | Vertex AI | PyTorch | TensorFlow | scikit-learn

**Full Stack & Data Engineering:** Python | Pandas | NumPy | PHP | React | FastAPI | REST APIs | SQL | NoSQL | JavaScript | GCP | Azure | AWS | Docker | Kubernetes | Terraform | CI/CD | Data Pipelines | ETL | Feature Engineering

**Strategy & Leadership:** Enterprise AI Strategy | ROI Quantification | Executive Alignment | Governance & Compliance | Change Management | Workforce Transformation | Agile & Scrum | SAFe

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## PROFESSIONAL EXPERIENCE

### AI Automation Lead (Sole Engineer) | Multnomah County

2025 - Present | Portland, OR (Remote)

Own the full AI lifecycle for county government -- from identifying automation opportunities through production deployment and stakeholder adoption. No team; sole technical resource responsible for strategy, architecture, code, infrastructure, and change management.

- **WCAG Compliance Automation:** Built automated triage pipeline replacing 4,000-12,000 hours of manual classification (\$150K-\$450K equivalent) with a 6-hour unattended process. Reduced 56,567-file inventory to 5,719 actionable items (90% scope reduction). Web crawl uncovered 4,265 "false orphans" -- live content invisible to the CMS -- a previously unknown compliance risk. Enabled 30-minute weekly updates for a site averaging 400+ new files/month, eliminating monthly re-audits.
- **Multilingual Content Platform:** Engineered multi-agent NLP pipeline making 20,000+ government pages translation-ready in 24 hours vs. projected 79-day manual effort -- 26x faster, \$34,946 saved (89% cost reduction). Four specialized PHP agents protected contact data, addresses, and 32K internal links from translation corruption that would have locked non-English-speaking residents out of essential services.

- **Agentic RAG System:** Deployed production hub-and-spoke agent architecture (5 specialized agents) for strategic compliance management across 56K+ documents. Function-calling pipelines with Vertex AI, exponential backoff, audit logging, and human-in-the-loop approval workflows.
- **End-to-End Remediation Platform:** Built diagnostic + remediation data pipeline: 9-module analysis layer (readability scoring, heading validation, PII detection, PDF structure analysis) feeding six remediation agents handling vision extraction, form detection, and axe-core validation. Outputs accessible HTML, PDF/UA, and Drupal Webforms from inaccessible source files.
- **Cloud & Legacy Integration:** Engineered secure REST API integrations bridging Drupal 10, MySQL, and serverless microservices via Google Cloud Run and Terraform. Observability pipelines in BigQuery and Cloud Monitoring quantify efficiency gains and optimize token costs.

### Principal AI Engineer (Full Stack) | EvolviQ

Nov 2024 - Nov 2025 | Remote

- **Production AI Systems:** Engineered 6 production ML/AI systems -- risk prediction (92%+ accuracy), churn analysis (86%+), computer vision with deep learning and neural networks (95%+), and time-series forecasting -- serving enterprise clients on Azure cloud. End-to-end feature engineering, model evaluation, and A/B testing pipelines.
- **RAG & LLM Engineering:** Developed 3 proprietary RAG models achieving 23% response accuracy improvement over 10K queries using transformer architectures and custom prompt engineering workflows. Built AI-driven academic reading system with fine-tuned LLMs and custom training pipelines serving 500+ university students.
- **Full-Stack Architecture:** Architected dual-agentic web platform with React frontend, FastAPI backend with REST APIs, and PCA/cosine similarity algorithms supporting 1,000+ concurrent users. Containerized deployment with Docker on Azure ML.

### Chief of Staff to CDAO / Strategy & Planning Director | USAA Bank

Jan 2023 - Nov 2024 | San Antonio, TX

- **Enterprise AI Strategy:** Spearheaded USAA FSB's first AI & Data Strategy, embedding AI/ML and automation to accelerate digital transformation across a \$126B portfolio. Delivered \$2.7M business impact in Q1.
- **Decision Automation:** Engineered automated decision workflows cutting cycle times 64%. Designed first AI-informed Balanced Scorecard integrating predictive metrics into enterprise performance management.
- **GenAI Pilot:** Powered MSRgpt, a proprietary Generative AI tool enhancing customer interactions and internal decision efficiency across bank operations.
- **Workforce Transformation:** Led adoption impact tracking using Agile OKRs and gap analysis to evaluate AI maturity, boosting employee engagement 23% while upskilling teams on digital fluency.

### Executive Planning Manager, CEO Chief of Staff / Change Partner | USAA

Nov 2020 - Dec 2022 | San Antonio, TX

- **CEO Operations:** Architected CEO strategy using McKinsey Model, reallocating time for strategic focus by 2x. Introduced 8 new processes and automated core functions, increasing efficiency 25% and slashing closure times 80%.
- **Enterprise Change Management:** Led change strategy impacting 3,500 employees across Consumer Lending and Complaints, increasing compliance rates from 22% to 99%. Delivered 57 change strategies aligned with Prosci methodology.
- **Executive Alignment:** Strengthened collaboration across 27+ leaders in 12 siloed teams, elevating trust, communication, and Board-authorized outcomes.

### Chief Master Sergeant (E-9) | Senior Enlisted Leader | United States Air Force

Oct 2001 - Aug 2020 | Multiple Locations

Promoted to E-9 in under 17 years -- a milestone achieved by less than 1% of enlisted members. 20-year career spanning combat zones, training commands, and executive environments.

- **Organizational Leadership:** Directed HR and organizational strategy for 534 personnel through COVID-19. Modernized USAF Basic Military Training, reducing attrition and saving \$1.8M annually.
- **Culture & Development:** Founded world-class Airman Development Center. Created and scaled Air Force's #1 DE&I Program (General Welsh Award). Advised SECDEF Austin on theater-wide people strategy at USCENTCOM.

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## ADDITIONAL EXPERIENCE

### AI for Leaders Program Mentor | Great Learning x UT Austin & Johns Hopkins

*Sep 2025 - Present*

Mentor executives in AI for Leaders (UT Austin) and AI for Enterprise (Johns Hopkins) programs. Guide senior managers through real-world AI strategy application.

### Corporate AI, Data & SQL Trainer | PTR Training

*Aug 2025 - Present*

Design and deliver hands-on AI training for government and enterprise clients including U.S. Army Intelligence Center of Excellence, Department of Energy, and Walgreens University. 25-30 participant cohorts.

### Strategic AI Executive Certificate - Advisory Panel | Houston Christian University

*Aug 2024 - Jun 2025*

Advised on AI/ML curriculum development, aligning programs with industry needs and ethical AI frameworks.

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## PROJECTS

### WCAG Compliance Triage & Scope Reduction Engine

*Python, PyMySQL, BeautifulSoup, Web Crawling, PDF Analysis*

Automated six-stage triage data pipeline replacing 4,000-12,000 hours of manual classification (\$150K-\$450K equivalent) with 6-hour unattended process for 56,567 government files. Web crawl validation uncovered 4,265 "false orphans" live on site but invisible to CMS. Deduplication across 2,481 groups eliminated redundant remediation. Priority scoring by traffic, content type, and effort; lane routing into PDF fix, OCR, HTML conversion, or rebuild. 30-minute weekly delta updates replaced monthly re-audits.

### WCAG Compliance & Remediation Platform

*Python, LangGraph, Gemini 2.5, Claude, Document AI, Vertex AI, Drupal 10*

End-to-end production platform for WCAG 2.1 AA compliance across 56,567 files under April 2026 ADA deadline. 9-module diagnostic layer (Flesch-Kincaid readability, heading validation, PII detection, SHA-256 deduplication, AcroForm/XFA detection). Six-agent remediation layer handling vision extraction, form detection, axe-core validation. Schema-first output: accessible HTML, PDF/UA, Drupal Webforms. Department ownership attribution validated 84% content concentration in 6 departments.

### Content Automation Platform (Linkit)

*PHP, Drupal 10, Vertex AI (Gemini), Multi-Agent Architecture*

Production NLP system making 20,000+ government pages translation-ready. Four specialized PHP agents: link conversion (32K internal links to Linkit UUID), address protection, phone/email shielding, orchestration with checkpoint/resume fault tolerance. Vertex AI designed agent logic and regex patterns; human-in-the-loop validation. 633-hour manual effort reduced to 24-hour deployment -- 26x faster, \$34,946 saved (89% cost reduction).

### AI Commander (Agentic RAG)

*Python, Vertex AI (Gemini), RAG, Multi-Agent Architecture, Streamlit*

Production hub-and-spoke orchestration (5 specialized agents: Commander router with sticky routing, conversational Data Analyst, RAG-powered WCAG Expert via Vertex AI Vector Search, Operations agent with human-in-the-loop approval, Data Dictionary). Function-calling pipelines with exponential backoff, audit logging, and dynamic visualizations.

### **Academic Reading Intelligence System (AIRS)**

*React, Azure OpenAI, FastAPI, Custom Training Pipeline, REST API*

Production LLM-powered academic reading coach serving 500+ students. Fine-tuning pipeline with synthetic training datasets using PyTorch and scikit-learn for model evaluation. React frontend with real-time chat and Azure OpenAI integration.

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## **EDUCATION**

**Doctor of Philosophy - Organizational Leadership & Program Evaluation** | University of the Incarnate Word (In Progress)

**Post Graduate Certificate - AI and Machine Learning** | University of Texas at Austin

**Post Graduate Certificate - AI/ML, LLM & GenAI Specialization** | Cornell University

**Post Graduate Certificate - Strategic Artificial Intelligence** | Houston Christian University

**Master of Science - Organizational Development** | University of the Incarnate Word

**Master of Arts - Psychology** | Northcentral University

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## **CERTIFICATIONS**

SHRM-SCP | Prosci Change Management | SAFe 5.0 Agilist | EQi-2.0 Emotional Intelligence Practitioner

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## **PUBLICATIONS**

**Bias and Reliability in AI Safety Assessment: Multi-Facet Rasch Analysis of Human Moderators** - *AIME*, 2025

**AI Integration in Academia: Investigating the Impact on Faculty Organizational Belongingness** - *APA*, 2024

**Self-Reflection and Socialization in Early Career Research: A LACOID-Based Text Mining Approach** - *AERA*, 2024

**Assessing Changes in Adult Online Learners' Motivation: A Grounded Bibliometric Analysis** - *Book Chapter*, 2023

**Exploratory Cluster Analysis of Technology Use During COVID-19 and Mental Health** - *Journal of Adolescent Health*, 2023