Louis Rosche

Educator & Educational Systems Architect

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Summary

Missouri-certified science and elementary educator with 9+ years in K-12 across five districts, currently teaching middle-grades science at Kairos Academies, and beginning the 2026-27 school year, Grade 6 science at Confluence Academies using Washington University's MySci curriculum. Designs curriculum, assessment, and early-warning systems that support NGSS instruction and connect students to MTSS interventions. Certified in Elementary Education (1-6) and Science (5-12), with additional certificates in Google Advanced Data Analytics, Project Management (CAPM), and Leadership & Communication (Harvard).

Experience

Science Teacher & Data Systems Architect · Kairos Academies Aug 2025 – Present · St. Louis, MO

- Designed a version-controlled curriculum system for 450+ students, with 63 accessible science simulations (WCAG 2.1 AA) and auto-generated 400+ weekly assessments, replacing manual assessment prep (HTML5, Google Apps Script).
- Built an early-warning system that identifies at-risk students and assigns MTSS interventions, audited for fairness across student groups and validated at ~0.92 AUC (XGBoost/LightGBM, Fairlearn, 4/5ths-rule disparate-impact testing).
- Replaced manual state-compliance reporting with an analytics platform spanning 70+ courses and 427 students, integrating five data sources (Canvas, DeansList, NWEA MAP, exit tickets, and a student-support roster) into one system (30,000+ lines of Python; DuckDB/Parquet, Polars).
- Launched a role-based analytics application serving Early Warning System alerts and 12 dashboard views to board members, administrators, and teachers (FastAPI).
- Engineered automated checks that verify every curriculum and reporting change for accuracy, accessibility, and FERPA compliance before it reaches students (28 GitHub Actions workflows, 350+ tests, 79-rule Node.js validator).

Science Teacher & MTSS Coordinator · Lindbergh School District

Aug 2024 – Jun 2025 · St. Louis, MO

- Cut 8 hours of weekly manual data work by automating MTSS progress monitoring for 60+ Tier 2/3 students, pulling directly from PowerSchool (SQL).
- Led an 8-member data team that used universal-screening data to target interventions; the building reached 82% NGSS proficiency, 12 points above the district average.

Education Specialist · Missouri Department of Social Services Dec 2023 – Jul 2024 · St. Louis, MO

- Built a centralized, equity-focused tracking system (Excel/VBA) monitoring 8 core educational metrics across 12 school facilities; automated compliance reporting, and aggregate wellness scores rose 23%.
- Designed a data-informed transition protocol for 60+ foster-care students, increasing successful school transitions by 30% while maintaining FERPA and IDEA compliance.

Research & Data Specialist (Contract) · United 4 Children Aug 2023 – Sep 2023 · St. Louis, MO

- Reduced quarterly reporting from 40 hours to 6 with a data pipeline consolidating 5 source systems into one PostgreSQL database (Python, pandas, SQLAlchemy).
- Wrote validation scripts that found and fixed 2,400+ data errors across 45 nonprofit organizations (Python).

Director of Mentoring · Kairos Academies Jun 2022 – Jun 2023 · St. Louis, MO

- Trained a 95%+-accurate model that identified students for Tier 3 support weeks before crisis escalation, using 14 risk indicators (Python, scikit-learn, XGBoost).
- Cut student crisis response time by 65% (from 48 hours to 8 hours) with an automated alert system.
- Automated administrative workflows with Google Apps Script, saving mentors 2.25 hours weekly and reducing new-hire training time by 30% across a 50+ member staff.

Lead Teacher · Momentum Academy Aug 2020 – Jun 2022 · St. Louis, MO

- Managed MTSS interventions for 25 high-needs students; inquiry-based science instruction was associated with a 16% improvement in MAP growth scores.

English Teacher · St. Louis Public Schools Aug 2019 – Jun 2020 · St. Louis, MO

- Reduced behavioral incidents by 18% using data-informed intervention strategies and restorative practices.

Looping Teacher · Aberdeen School District No. 5 Aug 2016 – Jun 2019 · Aberdeen, WA

- Served on the district Digital Teaching & Learning Task Force, analyzing a $2.5M EdTech budget to recommend device-procurement strategies; district-wide performance rose 13% over the period.

Technical Skills

Data Engineering & Storage	Python · Polars · pandas · DuckDB · Parquet · Pandera · SQLAlchemy · PostgreSQL · BigQuery · Apache Arrow · SQL · ETL Architecture
Machine Learning & AI	XGBoost · LightGBM · scikit-learn · Fairlearn · SHAP · Optuna · UMAP · SMOTE-NC · MLflow · BERT · Transformers
APIs & Web	FastAPI · Pydantic v2 · REST · Google OAuth · JWT · Rate Limiting · HTML5 · CSS · JavaScript · Node.js · Google Apps Script
Infrastructure & DevOps	Docker · GitHub Actions · Prefect · Railway · Render · Redis · Prometheus · structlog · Kubernetes
Testing & Quality	pytest · Hypothesis · ruff · mypy · pre-commit · codecov · property-based testing · Monte Carlo
Curriculum & Pedagogy	NGSS 3D Learning · MTSS / PBIS Frameworks · Universal Design for Learning (UDL) · Phenomenon-Driven Instruction · Missouri Learning Standards · Common Core State Standards
Education Compliance	FERPA · ESSA · MSIP 6 · Canvas LMS LTI API · PowerSchool API · DeansList API · NWEA MAP · Google Sheets Reporting · Analytics Automation · Custom Simulation Development

Education

Master of Arts in Education · Cum Laude
Truman State University · 2015

Bachelor of Science in Health Science · Cum Laude
Truman State University · 2014

Certifications & Licenses

Missouri Teaching License — Elementary Education (1-6) (Missouri DESE) — Valid through 2029

Missouri Teaching License — General Science (5-9) (Missouri DESE) — Valid through 2029

Missouri Teaching License — Unified Science (7-12) (Missouri DESE) — With General Science 5-9, covers Grades 5-12 science; valid through 2029

Missouri Physical Education (K-12) (Missouri DESE) — Certification pending; Praxis 5091 passed 2026

Missouri Health (K-12) (Missouri DESE) — Praxis 5551 passed 2025

Google Advanced Data Analytics Professional Certificate (Google) — 2023

Certified Associate in Project Management (CAPM) (Project Management Institute)

Professional Certificate in Leadership and Communication (Harvard University)

Certified Health Education Specialist (CHES) (NCHEC)

Certified Community Mediator (Thurston County Dispute Resolution Center)

Professional references available on request.