Zachary T. Crossett

Pittsburgh, PA • (412) 780-7204 • zach.crossett@gmail.com • zachcrossett.com

PROFESSIONAL SUMMARY

AI/ML engineer and data science leader with 14 years of experience building machine-learning systems, agentic AI applications, and data products. Combines hands-on Python and SQL expertise with analytics leadership, delivering solutions from problem definition through production deployment and measurable business impact.

CORE EXPERTISE

Applied Machine Learning • Generative AI & Agentic Systems • Data Science • Advanced Analytics • Forecasting & Optimization • Experimentation • Data Products • Statistical Modeling • Business Intelligence • Data Strategy • Technical Leadership

TECHNICAL TOOLKIT

Python • SQL • pandas • NumPy • scikit-learn • XGBoost • PyTorch • TensorFlow • LangChain/LangGraph • RAG & Vector Retrieval • SQL Server • DB2 • Oracle • Snowflake • GCP • Git/GitLab • Docker • APIs • ETL/Data Pipelines • PowerBI • Tableau

EXPERIENCE

DumpsterData **Pittsburgh, PA**

Founder & Lead Data Scientist **June 2026 – Present**

- Founded a commercial waste pricing intelligence platform providing location-specific pricing benchmarks across U.S. markets.
- Built Python-based data acquisition, modeling, and validation pipelines integrating industry economics, geospatial data, service characteristics, and regional market factors.
- Developed OCR pipelines and AI agents to analyze commercial waste invoices and contracts while leading application architecture, backend development, and commercialization.

BNY **Pittsburgh, PA**

Vice President, AI/ML & Data Science **Nov. 2025 – Sept. 2026**

- Built agentic AI systems using Python, LangChain/LangGraph, and RAG to evaluate model-risk documentation against 120+ audit questions; saved approximately 4,000 auditor hours annually.
- Developed AI evaluation frameworks using stakeholder ground truth, human review, and independent evaluator agents to improve output accuracy and reliability.
- Designed and deployed a production Python/SQL Server application supporting approximately 80 Internal Audit users across BNY, integrating proprietary APIs and automated data pipelines.
- Managed application deployments through GitLab, Docker, and AppEngine; performed complex financial-data analysis across SQL Server, DB2, Oracle, and Snowflake.

Vice President, Business Intelligence **Oct. 2023 – Nov. 2025**

- Led a nine-person global analytics team developing predictive models and decision frameworks that improved KPI performance 17% across four divisions.
- Designed and deployed ML models predicting processing timeliness, contributing to a 4% YoY improvement in on-time performance.
- Automated analytics and modeling workflows using Python and SQL and advised executive team on data, analytics, and AI strategy.
- Recognized as a finalist for BNY Pittsburgh's Team of the Year for measurable operational impact.

APPLIED RESEARCH

University of Michigan **Ann Arbor, MI**

Researcher, Data Fusion & Microsimulation **April 2026 – Present**

- Developed a Python-based synthetic-population framework with Professor Tayo Fabusuyi combining ACS PUMS household/person microdata with tract-level ACS controls to enable small-area microsimulation and policy analysis.
- Built the project's data harmonization, household synthesis, person attachment, calibration, and validation pipeline using pandas/NumPy, iterative proportional fitting (IPF/raking), optimization-based calibration, and integerization.
- Validated the framework across 42 US Census tracts, generating approximately 66,000 synthetic households and 160,000 synthetic individuals; one validation run reduced age-band error approximately 81% versus the household-only baseline.
- Expanded validation across nine PUMAs representing urban, moderate, and rural populations in Pennsylvania, Ohio, and Michigan; research is intended to support additional dataset fusion and a methodological white paper.

ADDITIONAL EXPERIENCE

BNY **Pittsburgh, PA**
Global Business Manager, Portfolio Services **May 2021 – Oct. 2023**

- Directed analytics strategy for a $62M business unit; developed 20+ statistical and ML models supporting financial, staffing, and operational decisions; managed four staff.

Project Manager, Strategy & Automation **Aug. 2020 – May 2021**

- Led integration of a fintech automation platform into enterprise workflows, generating more than $350K in annual savings.

Operations Manager, Portfolio Services **Dec. 2018 – Aug. 2020**

- Led a 15-person team responsible for reconciliation of $30B in daily transactions; developed data-driven automation that reduced expenses 36% and improved operational throughput 12%.

BNY **New York, NY**
Senior Associate, Chief Administrative Office **Jan. 2017 – Dec. 2018**

- Developed executive dashboards and reporting covering KPIs, financial performance, and strategic initiatives for BNY Operations leadership.

RoadRunner Recycling **New York, NY**
Director of Operations **Sept. 2014 – July 2016**

- Founding employee at venture-backed clean-tech startup valued at $1.15B as of November 2022; developed pricing and sales optimization models supporting market expansion and growth from $0 to $25M revenue in the first 22 months.

Sequoia Waste Solutions **Pittsburgh, PA**
Data Analyst **April 2012 – June 2014**

- Developed models analyzing commodity rates, operating costs, and performance metrics while supporting sales strategy and vendor management.

EDUCATION

University of Michigan **Ann Arbor, MI**
Master of Applied Data Science, AI Concentration | GPA: 3.9 **Aug. 2026**

Miami University **Oxford, OH**
B.A., History; Minor in Economics **Dec. 2011**

CERTIFICATIONS

Google Cloud Certified Professional Machine Learning Engineer, *Google*
Project Management Professional (PMP), *Project Management Institute*