Michael Leon Chrzan

(313)-982-2853 | mlchrzan1@gmail.com | College Park, MD
https://www.linkedin.com/in/mlchrzan/

Professional Summary

I am a Data Scientist and former Master Teacher with over a decade of experience bridging education practice, policy, and data science. My work leverages machine learning, predictive & causal inference, and natural language processing to tackle pressing challenges in K–12 education and beyond. I currently work at the Center for Educational Data Science and Innovation (EDSI) where I focus on AI for equity in education, scenario modeling for school closure policies, and the ethical application of AI and machine learning. My career spans research, data science, EdTech, and teaching at both K–12 and university levels.

Education

Stanford University, Graduate School of Education – *Stanford, CA*
M.S. in Education Data Science (GPA: 4.1) *Aug 2023 – Jun 2025*

- Specializations: **Causal Methods, Measurement, Networks, Natural Language Processing**
- Dean's Fellowship recipient (2023)

University of Michigan – *Ann Arbor, MI*
B.S. in Mathematics, *Sep 2011 – May 2016*

- Regina Clark McNeil Endowed Scholar
- Gates Millennium Scholar, Coca-Cola Scholar

Professional Experience

Center for Educational Data Science and Innovation (EDSI) – *College Park, MD*
Data Scientist | *Apr 2025 – Present*

- Lead data-driven research initiatives to improve educational equity and effectiveness.
- Analyze classroom recordings, administrative datasets, and AI-generated data to build actionable tools for schools and policymakers.
- Collaborate with researchers, educators, and developers to advance ethical, evidence-based AI adoption in education.

Stanford Accelerator for Learning – AI Tinkery – *Stanford, CA*
AI Tinkery Mentor | *Jan 2025 – June 2025*

- Mentored students, educators, and researchers exploring generative AI applications in education.
- Led working groups on ethical AI use and AI in educational research, fostering interdisciplinary collaboration.

Bellwether Education Partners (Contractor) – ***Remote***
Data Analyst | ***Sep 2024 – Present***
- Supported state school finance analyses using R, tidyverse, and GitHub for collaborative workflows.
- Ensured high-quality data cleaning, validation, and reproducible analytics for education policy decisions.

Stanford University, Graduate School of Education – ***Stanford, CA***
Graduate Research Assistant | ***Jan 2024 – Apr 2025***
- Developed and evaluated LSTM, XGBoost, and ensemble models to predict large-scale school closures.
- Merged & analyzed 18 years of national U.S. school-level data for predictive modeling and policy simulation.

San Francisco Unified School District (Contractor) – ***San Francisco, CA***
Data Scientist | ***Jun 2024 – Sep 2024***
- Built a scenario generation algorithm evaluating 400+ viable school closure scenarios.
- Developed equity-focused school quality indicators uncorrelated with historical inequities.

Newsela – ***Remote***
Impact Research Intern | ***Jul 2024 – Sep 2024***
- Conducted advanced quantitative efficacy research demonstrating percentile gains in student learning outcomes.
- Created visualizations and reports to inform product strategy and stakeholder engagement.

ACADEMIC & TEACHING EXPERIENCE

University of Michigan, School of Education – ***Ann Arbor/Detroit, MI***
Lecturer (Mathematics Education) | ***Aug 2022 – Aug 2023***
- Piloted an "Embedded Field Instructor" program linking K–12 teaching practice with teacher education coursework.
- Mentored 6 math teacher interns, aligning field experiences with university coursework.

Detroit Public Schools Community District – ***Detroit, MI***
Math Master Teacher | ***May 2019 – Aug 2023***

- Developed data protocol for the Instructional Leadership Team to pull data and develop insights to make data-informed decisions for improving student outcomes.
- Led weekly department meetings to review progress towards department goals and develop key instructional practices for our pedagogical approach.
- Mentored 20+ teaching interns and the math department on effective teaching practices, including developing a Project Based Learning framework, resulting in growth on district and university metrics of teaching skill.

Earlier K–12 Teaching Roles:

- University Prep Schools (*2018–2019*): Developed 6–12 Honors Math program.
- Promise Schools (*2016–2018*): Led Grade 10 team to historic PSAT gains (+100 points composite).
- Slauson Middle School (*2015*): Led student teaching practicum in blended & flipped classrooms.

SELECTED PUBLICATIONS AND PRESENTATIONS

- **Chrzan, Michael L.**, Francis A. Pearman, II, and Benjamin W. Domingue. (2025). *Deeper Roots Before the Storm: Utilizing Machine Learning to Alert School Districts of Permanent School Closures*. (EdWorkingPaper: 25-1210). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/qpvx-jv29
- **Chrzan, M. L.**, Khanna, R., Pearman, F. A., Wentworth, L. P., Kim, M., & Lau-Smith, M. (2025, April). *Foregrounding equity in school closures, mergers, and co-locations*. Paper presented at the American Educational Research Association (AERA) Annual Meeting, Denver, CO.

SELECTED RESEARCH & APPLIED PROJECTS

(GitHub repositories and other projects available on my LinkedIn)

- **"No Schools Should Be Closed"** → *NLP & topic modeling* on racial differences in community feedback about school closure metrics.
- **Beliefs Shape Reality** → *Structural equation modeling* of parental equity beliefs and academic achievement.
- **Duolingo User Persistence** → Semi-supervised learning to predict retention based on user engagement patterns.
- **Gentrification & Educational Outcomes in Detroit** → Modified Pearman & Greene (2022) model to examine city-level impacts.

AWARDS & HONORS

- Dean's Fellowship, Stanford University (2023)
- Rookie Chess Coach of the Year, DPSCD STEM Activities Dept. (2022)
- Teacher Leadership Award, Teach for America Detroit (2018)

- Regina Clark McNeil Endowed Scholarship, Univ. of Michigan (2015)
- Gates Millennium Scholar, Bill & Melinda Gates Foundation (2011)
- Coca-Cola Scholar, Coca-Cola Scholars Foundation (2011)

CERTIFICATIONS

- Group 2: IRB Nonmedical Research Certification – CITI Program
- Standard Teaching Certificate (Mathematics 6–12) – Michigan DOE
- Standard Teaching Certificate (Psychology 6–12) – Michigan DOE

SKILLS

- ***Technical Skills:*** R, Python, SQL, Machine Learning, Linear Regression, Data Visualization, Natural Language Processing, Factor Analysis, Quantitative Research, IRT, Causal Inference, Quasi Experimental Design, A/B Testing, Tidyverse, PyTorch, NumPy, Pandas, PostgreSQL, Deep Learning, Statistical Modeling
- ***Professional Skills:*** Project Management, Stakeholder Management, Coaching, Systems Thinking, Microsoft Office, Google Workspace
- ***Interests:*** Data Simulation, Causal Machine Learning, AI, Bias Reduction in AI, Education Policy, Gaming (Video and Tabletop), Equity, Intergroup Rela on, Consumer Technology

PROFESSIONAL AFFILIATIONS & SERVICE

- **Gates Scholars Network** – Active Alumni Member
- **Coca-Cola Scholars Network** – Active Alumni
- **Teach for America Detroit Alumni Network**
- **Math Corps -** Alumni