

Timothy B. Luciani

Chicago, IL, USA

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Director and research scientist with a PhD in data visualization and 10+ years building analytics platforms at scale. Lead a team of PhD scientists and engineers delivering LLM-driven audience intelligence over petascale marketing data. 15 peer-reviewed publications including 8 journal articles and 3 IEEE TVCG papers; full list at tim.phd.

Skills

AI/ML	RAG, LLM evaluation (LLM-as-a-Judge), retrieval benchmarking, prompt/token optimization, model serving and routing, embedding and clustering models, GPU scheduling, local/quantized inference
Data	Spark, PySpark, Databricks, Hadoop, Airflow, PostgreSQL, ADBC
Platform	AWS (EC2, EKS), Kubernetes, ArgoCD, OpenTelemetry, Okta/SSO, FastAPI, Docker
Frontend	React, TypeScript, D3.js, WebGL, Vitest, Nx
Languages	Python, TypeScript/JavaScript, C++, SQL, CUDA/OpenCL
Leadership	Team leadership and performance management, cross-functional roadmap ownership, data governance and compliance, executive communication, technical hiring and mentorship

Experience

Publicis Groupe – Epsilon

Chicago, IL

DIRECTOR, VISUAL ANALYTICS – DECISION SCIENCES

July 2019 – Present

- Promoted three times across four roles in four years: Data Visualization Scientist (Jul 2019) → Senior Data Visualization Scientist → Associate Director → Director (Jul 2023)
- Lead DSVA Systems, a team of 4–5 (three PhD research scientists, one data engineer, seasonal intern) as one of three pod leads reporting to the VP of Decision Sciences, Visual Analytics (DSVA), helping to architect DiME — a visual storytelling platform that turns petascale marketing data into data-rich narratives, used to show prospective clients how Epsilon can reach their customers and lift return on ad spend.
- Grew platform adoption +93% total users, +64% unique users, and +85% unique companies year over year (2024 vs. 2023), driven by third-party data integration (TxSpend, IRI, Circana) spanning 1,400+ companies and 8,500+ audiences, and by extending DiME into adjacent Publicis products via Okta SSO.
- Platform-generated narratives and personas drove creative ideation on a competitive new-business pitch, in partnership with Epsilon's creative team, contributing to a Fortune 500 retail account win, which has become our platform's core use case.
- Direct my pods's LLM-assisted work: retrieval-augmented generation over proprietary marketing data, shipped to users as conversational persona exploration, on a shared LLM proxy with Databricks-based model management. Built the internal evaluation layer behind it — LLM-as-a-Judge harnesses, retrieval-quality benchmarking, and production response-quality monitoring, enabling continuous assessment of deployments rather than release-gated review.
- Established AI adoption practice for the department: helped author my team's AI adoption roadmap and tracking wiki, set usage guidance across Decision Sciences, and report adoption saturation findings to leadership. Serve on the Decision Sciences AI Steering Committee.
- Rebuilt the data platform for scale: NLRR v2 from ad-hoc SQL prototype to production Spark, now computing 500+ companies monthly and consumed by Audience Lab and Publicis Discovery; PySpark post-processing migration; PostgreSQL hash-join and indexing optimization; Databricks migration for core processing workloads.
- Own infrastructure and compliance for the platform: EC2/EKS, Kubernetes with ArgoCD, PostgreSQL 17 upgrades, and the only GPU-scheduled Airflow deployment in Decision Sciences Visual Analytics (7 GPU servers). Led the CA-DROP data-governance initiative end to end — audit, remediation planning, and verified closure across all production environments — sustaining 99.9% uptime throughout.

General Dynamics - Mission Systems | Viz

Pittsburgh, PA

LEVEL 2 SOFTWARE ENGINEER

July 2014 – May 2017

- Co-architected mission-critical software enabling emergency response coordinators to manage resources in real time, across both crisis and routine operations.
- Architected the next-generation, in-house charting and visualization framework, replacing legacy tooling used across the team.

University of Pittsburgh • University of Illinois at Chicago

GRADUATE RESEARCH FELLOW (NSF GRFP) / RESEARCH ASSISTANT

2012–2019

Education

University of Illinois at Chicago, Electronic Visualization Laboratory

PH.D., COMPUTER SCIENCE (DATA VISUALIZATION)

• Thesis: *Problem-Driven Design Strategies for Scientific Data Visualization*

• Doctoral study at University of Pittsburgh (2012–2014) and Brown University (2014–2015); each transfer followed a change in doctoral advisor

Chicago, IL

2019

University of Pittsburgh

B.S., COMPUTER SCIENCE, CUM LAUDE

Pittsburgh, PA

2011

Selected Publications

- J8** A. Wentzel, T. Luciani, L. van Dijk, N. Taku, B. Elgohari, A.S.R. Mohamed, G. Canahuate, C.D. Fuller, D. Vock, G.E. Marai. "Precision association of lymphatic disease spread with radiation-associated toxicity in oropharyngeal squamous carcinomas", *Radiotherapy and Oncology*, vol. 161, pp. 152–158, Elsevier, June 2021. doi:10.1016/j.radonc.2021.06.016
- J7** T. Luciani, A. Wentzel, B. Elgohari, H. Elhalawani, A.S. Mohamed, G. Canahuate, D.M. Vock, C.D. Fuller, G.E. Marai. "A Spatial Neighborhood Methodology for Computing and Analyzing Lymph Node Carcinoma Similarity in Precision Medicine", *Journal of Biomedical Informatics: X*, vol. 5, art. 100067, Mar. 2020. doi:10.1016/j.yjbix.2020.100067
- J6** A. Wentzel, P. Hanula, T. Luciani, B. Elgohari, H. Elhalawani, G. Canahuate, D. Vock, C.D. Fuller, G.E. Marai. "Cohort-based T-SSIM Visual Computing for Radiation Therapy Prediction and Exploration", *IEEE Transactions on Visualization and Computer Graphics*, vol. 26, no. 1, pp. 949–959, 2020. doi:10.1109/TVCG.2019.2934546
- J5** T. Luciani, A. Burks, C. Sugiyama, J. Komperda, G.E. Marai, "Details-First, Show Context, Overview Last: Supporting Exploration of Viscous Fingers in Large-Scale Ensemble Simulations", *IEEE Transactions on Visualization and Computer Graphics*, vol. 25, no. 01, pp. 1–11, Jan. 2019.

Full record: 8 journal articles, 5 conference papers, 2 book chapters, 10 posters and abstracts — tim.phd

Selected Honors

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| 2018 | Invited Participant, Dagstuhl Seminar 18442: Visualization and Processing of Anisotropy in Imaging, Geometry & Astronomy | Dagstuhl, DE |
| 2017 | IEEE Visual Analytics Science and Technology (VAST) Challenge, MC2 , IEEE VIS | Phoenix, AZ |
| 2017 | IEEE Visual Analytics Science and Technology (VAST) Challenge, MC3 , IEEE VIS | Phoenix, AZ |
| 2012 | Best-Paper Runner-Up , IEEE Large-Scale Data Analysis and Visualization (LDAV) | Seattle, WA |
| 2012 | National Science Foundation Graduate Research Fellowship (GRFP) Recipient , NSF | |

Leadership & Service

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| 2026 | Member , Decision Sciences AI Steering Committee | Chicago, IL |
| 2020 | Chair , IEEE VIS Student Volunteer Program | Salt Lake City, UT |
| 2019 | Chair , IEEE VIS Student Volunteer Program | Vancouver, BC, CA |
| 2018 | Chair , IEEE VIS Student Volunteer Program | Berlin, Germany |
| 2013 | Vice-President , University of Pittsburgh, Graduate Student Organization | Pittsburgh, PA |