

Michael Kline

Data Scientist · Computational Modeler

Columbus, OH | michael@mkline.co | linkedin.com/in/kline-michael | mkline.co

Data scientist and computational modeler who leads cross-functional teams across the full data lifecycle, from GPU-accelerated simulation and probabilistic risk modeling to executive-level reporting that informs **\$100M+ investment decisions**. M.S. in Physics with peer-reviewed research from Oak Ridge National Laboratory.

PROFESSIONAL EXPERIENCE

Data Scientist/Modeler II

Jan 2024 – Present

Battelle Memorial Institute | Columbus, OH

- Manage a portfolio of multi-million-dollar technical initiatives generating **\$1.3M+ in annual revenue**, driving continuous operational improvement
- Lead a cross-functional team of **15+ data scientists and modelers** building a large-scale probabilistic risk assessment that guides strategic investments
- Instituted code-governance and documentation standards built on CI/CD principles, reducing technical debt and improving maintainability across the modeling group
- Synthesize complex analytical findings into executive presentations that directly influence **\$100M+ in investments**

Data Scientist/Modeler I

Nov 2022 – Jan 2024

Battelle Memorial Institute | Columbus, OH

- Engineered performance improvements to mission-critical, client-facing code, achieving a **40x speedup** in processing time while maintaining rapid turnaround
- Designed a custom file format tailored to departmental workflows, eliminating manual data-preparation steps and reducing latency for cross-functional teams
- Translated complex statistical models into clear visualizations and executive summaries for technical and non-technical stakeholders, enabling faster decisions

Science Undergraduate Laboratory Intern (ORISE SULI)

Jun 2020 – Aug 2021

Oak Ridge National Laboratory | Oak Ridge, TN (Remote)

- Built GPU simulations in **Julia and CUDA** computing detection probabilities over **tens of millions of parameter combinations** for a mirror-neutron dark-matter search (published in PRL and PRD)
- Developed a neutron spin-tracking simulation for the nEDM@SNS experiment to quantify systematic effects that could produce a false EDM signal
- Presented research at the APS Division of Nuclear Physics Fall Meetings (2020, 2021)

TECHNICAL SKILLS

Languages: Python (NumPy, SciPy, Pandas), Julia, C++, C# / .NET, SQL

Computing & Modeling: CUDA, parallel/GPU computing, simulation modeling, probabilistic risk assessment

Data Management: PostgreSQL, SQL, custom binary/text file-format engineering

DevOps & Tools: Git, GitHub Enterprise, Azure DevOps, Docker, CI/CD

EDUCATION

Master of Science in Physics

Aug 2021 – Nov 2022

The Ohio State University | Columbus, OH · University Fellowship

Bachelor of Arts in Physics & Mathematics

Sep 2018 – Dec 2020

Transylvania University | Lexington, KY · Summa Cum Laude (4.0 GPA)

PUBLICATIONS

F. M. Gonzalez, ... **M. Kline**, et al. "Improved limits on $n \rightarrow n'$ transformation from the Spallation Neutron Source." *Physical Review D* 110, 072022 (2024).

L. J. Broussard, ... **M. Kline**, et al. "Experimental Search for Neutron to Mirror Neutron Oscillations as an Explanation of the Neutron Lifetime Anomaly." *Physical Review Letters* 128, 212503 (2022).