Lennon Mueller

EDUCATION

2025 Certification in Applied Data Science: Leveraging AI for Effective Decision-Making, Massachusetts Institute of Technology Professional Education

2023 MS in Data Analytics, Southern New Hampshire University
2013 B.A. in Psychology, Ohio Christian University

EMPLOYMENT

October 2022 –Present, Data Scientist, Western Governors University

- Developing, scaling, and automating a Course Sequencing Recommendation Engine driven by ML modeling using Databricks
- Developing, scaling, and personalizing a Gen-AI model to improve student experience and access to tutoring resources.
- Successfully scaled machine learning projects from proof of concept to all WGU students ahead of schedule, then was commissioned with the leftover time to assist two team members in scaling their models, ensuring they met their goals.

August 2019 – October 2022, Data Analyst, Indiana Wesleyan University

- Duties: Leveraging AI and machine-learning tools and techniques to provide robust analytical support to decision-makers. Database query and data analysis using R, Python, SQL and Veera Construct, Microsoft Power Bi, Excel, and SPSS. Quantitative data analysis including parametric (t-test, F-test, Pearson correlation) and non-parametric (Spearman correlation, U-test) significance testing, linear regression, machine-learning algorithms, predictive modeling, and forecasting.

RESEARCH AND PROJECT EXPERIENCE

December 2022-Present, Sequencing Recommendation Engine, Western Governors University

- Inherited a proof-of-concept recommendation engine for recommending the order in which students should take courses. Scaled from 15% to 50% coverage in first year of ownership.
- Modeling involves K-means clustering and XGboost regression. Python modeling code loops through program data applying program-specific preprocessing and relying on Lasson regularization for feature selection for each program. Modeling is fully automated with regular performance monitoring and automated alert system.

December 2021-April 2022,
H.O.P.E. Dashboard, Indiana
Wesleyan University

- Constructed a student risk algorithm to detect at-risk students. Model detects future withdrawals with 91.7% accuracy (last accuracy assessment on 8/22/22 with risk data on 1,099 students).
- Algorithm and accompanying student academic, demographic, and contact info were built into a Power BI dashboard. Dashboard was then piloted with advising teams and successfully implemented in April 2022. Mass communication feature added to dashboard allowing advisors to quickly identify and reach out to at-risk students. Dashboard is now main tool for advisors and has increased student contacts by more than 10x and reduced time required to identify and reach out to at-risk students by nearly 100%.
- Risk algorithm was used to produce a risk history for every enrolled student. Risk history displays the daily evolution of a student's risk score throughout their academic journey and has enabled the use of AI and machine-learning techniques to identify patterns of risk score behavior indicative of future withdrawal.

PRESENTATIONS AND PUBLICATIONS

Mueller, L, Metzcar, A (2022) *From the DataHub and Beyond! Developing an effective Risk Model at Indiana Wesleyan University.* Webinar presented at D2L Fusion 2022.

Mueller, L, Decker M (2018*) Exploring the Impact of Locus of Control on Dropout Rate at Ohio Christian University.* Paper presented at the National Symposium on Student Retention

Mueller, L, Decker, M, Sheerer, J. (2013). *Treatment of Articulation Disorders using Overcorrection Procedures*. Poster session presented at the annual Butler University Undergraduate Research Conference.