Serena Warner

Data analyst specializing in large-scale behavioral data analysis, statistical modeling, and interpretable machine learning. Experienced in feature engineering, dimensionality reduction, and simulation-based validation using Python and SQL.

github.com/serenawarner | www.linkedin.com/in/serena-warner-877647300 | serenawarner.github.io

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TECHNICAL SKILLS

Programming: Python, SQL, R, Java
Data Libraries: pandas, NumPy, scikit-learn, TensorFlow
Visualization: matplotlib, seaborn, Tableau, Excel
Techniques: Data cleaning, feature engineering, PCA, regression modeling, classification, hypothesis testing, Monte Carlo simulation
Tools: Git, Jupyter, VS Code, Docker

DATA ANALYTICS PROJECTS

Modeling Behavioral Dimensions from Large-Scale Trait Data — The College of Wooster *(2026)*

- Analyzed 1M+ rows of personality trait data using Python (pandas, NumPy)
- Engineered composite features from raw trait variables using theory-constrained mappings
- Applied Principal Component Analysis (PCA) to identify latent structure across eight derived features
- Developed Monte-Carlo simulation framework (5,000+ iterations) to evaluate structural model robustness
- Estimated statistical significance using null distributions and p-value analysis
- Developed clear and interpretable visualizations to communicate findings using matplotlib and seaborn

Personality Classification with Text-Based ML Models — The College of Wooster *(2025)*

- Built supervised classification models (SVM, Logistic Regression) for multi-class prediction
- Applied TF-IDF vectorization for feature extraction from unstructured text
- Balanced imbalanced datasets using SMOTE
- Evaluated models using cross-validation and F1-score metrics
- Achieved competitive multi-class classification performance

Analyzing Risk Factors in Diabetes Diagnosis — The College of Wooster *(2024)*

- Built logistic regression models in R to identify statistically significant predictors of diabetes diagnosis
- Performed feature selection and model interpretation to isolate key risk factors
- Communicated findings through interpretable statistical summaries for non-technical stakeholders

Predicting Rugby Match Outcomes with Machine Learning — The College of Wooster *(2024)*

- Trained and evaluated decision tree and ensemble classifiers on historical sports data
- Achieved 75% prediction accuracy through feature engineering and model tuning
- Compared performance using cross-validation and classification metrics

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WORK & LEADERSHIP EXPERIENCE

STEM Zone Leadership Roles – Wooster, OH *(Fall 2023 – Spring 2026)*

- Led STEM Zone events and managed social media presence to promote engagement across campus.
- Provided in-class support, graded assignments, and guided students in Python and Java programming.
- Analyzed student performance trends across assignments to identify recurring error patterns and deliver targeted support.

iD Tech Instructor – Pittsburgh, PA *(Summer 2025, Summer 2026)*

- Led weekly instruction for cohorts of ~7 students, teaching Python and convolutional neural networks using TensorFlow.
- Actively mentored and provided technical support to over 200 students in shared classroom settings, contributing to a collaborative and inclusive STEM learning experience across the entire camp.

Teaching Apprentice – Wooster, OH *(Fall 2024, Fall 2025, Spring 2026)*

- Will deliver guest lectures on technology's societal impact in FYSM-101 and support student discussions.
- Assisted in labs for CSCI-102, helping students debug projects and prepare for exams during office hours.

EDUCATION

The College of Wooster – B.A. in Computer Science, May 2026 *(GPA: 3.81)*

Relevant coursework: Machine Intelligence, Applied Statistics, Linear Algebra, Graph Theory and Combinatorics, Data Structures and Algorithms, Applied Integral Calculus, Applied Differential Calculus, Data Visualization, Database Systems, Web Development

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AWARDS & HONORS

Dean's List (2022–2025) | Dean's Scholarship | Rindsfoos Scholarship | Alpha Alpha Alpha (First-Gen Honors Society) | Pi Mu Epsilon (Math Honors) | Delta Phi Alpha (German Honors)