NICKOLAS BARTLE

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DATA ANALYST

EDUCATION

Wake Forest University School of Business, Winston-Salem, NC — Master of Science in Business Analytics, *May 2026*
Honors & Activities: Wake Forest Baseball Team Graduate Analyst and Statistician, Management Consulting Club, Program Ambassador

University of Alabama, Tuscaloosa, AL — Bachelor of Science in Management Information Systems, *December 2024*
Honors & Activities: Alabama Information Management Society (AIMS), UA Data Analytics Club, Phi Sigma Kappa

AREAS OF EXPERTISE

Quantitative Analytics | Data Science | Predictive Modeling | Data Analysis | Statistical Analysis | Data Extraction | Software Development | Programming
Data Visualization | Automation | Data Modeling | Process Optimization | Leadership | Mathematic Analysis | Database Management | AI/ML Design
Data Pipelines | Systems Engineering | Database Architecture | Supervised/Unsupervised Learning | Model Deployment | Algorithms | Regularization

TECHNICAL SKILLS

Programming Languages: Python, SQL, R, C#, HTML, JavaScript, CSS, Dax, Node.js, .Net
Technical Tools: Power BI, Tableau, Plotly, Matlib, Ggplot2, Seaborn, Streamlit, Excel
Machine Learning: XGBoost, Bayesian, Random Forests, Ensembling, GAMs, Lasso-Ridge, Stacking, Time Series, Neural Networks, Monte Carlo, MCMC
Operating Environments: R Studio, VS Code, Jupyter, MySQL, SQLite, DBeaver, GitHub, Microsoft Office (All Apps)

PROFESSIONAL EXPERIENCE

GRADUATE CONSULTANT PRACTICUM TEAM LEAD, **PetSafe Brands** — *Sep 2025 – Present*
- Served as a team lead for client meetings, and helped lead efforts in project development
- Applied machine learning model techniques to identify optimal discount product depths for client market research
- Conducted market research for feature engineering, competitor strategies, seasonality, and price volatility factors

GRADUATE BASEBALL DATA ANALYST / STATISTICIAN, **Wake Forest University Baseball** — *Jun 2025 – Present*
- Developed 3 predictive gradient boosting machine learning pipelines from 900,000 data observations across multiple pitch types; whiff outcomes, groundball tendencies, and BABIP models and created a pitcher stuff+ model for fastball data using gradient boosting and stacking
- Generated actionable insights through pitcher performance leaderboards, delta analysis identifying over/under-performers, and comprehensive visualization analysis including correlation matrices, histograms, scatterplots, and feature importance plots
- Built a Shiny App for each predictive model to allow real-time interactive metric calculators for pitchers on their raw ball flight characteristics

DATA ANALYST / INFORMATION SYSTEMS ENGINEER CO-OP, **Mercedes-Benz US** — *Aug 2023 – Sep 2024*
- Collaborated with manufacturing leadership, implementing data-driven optimization strategies and Python code that increased cart space efficiency by 15% which also reduced operating material costs, demonstrating commercial awareness
- Managed complex deployment of predictive scheduling optimization solutions coordinating cross-functional teams, while developing client-facing Power BI dashboards for operational decision-making and cost optimization using full SDLC

BASEBALL DATA ANALYST / STATISTICIAN, **University of Alabama Baseball Team** — *Sep 2022 – Apr 2023*
- Designed a Python codebase with Plotly and Matplot libraries to manipulate large amounts of data and visualize effectively
- Used shiny apps to construct detailed advanced scouting reports on for SEC play and other leagues when needed
- Reviewed SQL databases for data processing at conclusion of games ensuring proper storage and organization

ANALYTICAL PROJECT EXPERIENCE

Multi-Machine Learning Model Financial Services Fraud Detection Project:
- Performed data preparation and cleaning on a dataset of 900,000 observations through Python to prepare for modeling and learning phase
- Constructed multiple machine learning classification models (linear regression, logistic regression, weighted logistic, random forests, XGBoost) achieving 88% fraud detection rate and identifying key risk predictors through proper visualization and undersampling techniques
- Implemented a 3-tier system for dealing with fraud applications based on optimized threshold levels; high, medium, and low

Bayesian Hierarchical Pitcher Aging & Decline Detection Project:
- Architected a 3-component methodology combining Bayesian hierarchical modeling, PELT changepoint detection, and risk assessment frameworks to quantitatively separate natural aging from injury effects in MLB pitcher velocity across 10 years of Statcast data covering 5,500+ observations
- Validated approach through retrospective case study analysis of 8 MLB pitchers demonstrating distinct aging and injury pattern trajectories, and additional machine learning to produce uncertainty estimates of player future risk and velocity to build a reliable early warning system for player development and roster planning decisions
- Implemented changepoint detection algorithms to identify precise decline onset timing with uncertainty quantification, enabling front office personnel to distinguish between natural aging, mechanical issues, and injury-related performance degradation with statistical confidence intervals

Ensemble Model Future OBP Performance Prediction Project:
- Developed sophisticated ensemble machine learning model combining Ridge Regression, Gradient Boosting, and Random Forests to predict 2021 OBP's for 550+ MLB players using 5 years of historical performance data
- Created advanced features including weighted historical OBP with recency bias, age-based performance curves, and mean regression methodology, implementing uncertainty quantification with confidence intervals accounting for player experience levels to provide actionable risk assessments

Senior Database Capstone Project:
- Leveraged full-stack development to update client's front-end functionality with new features including class registration forms, attendance records, and admin/student login systems, managing the entire deployment lifecycle while considering engineering process standards and optimized client systems and SQL databases service records

LEADERSHIP EXPERIENCE

Eagle Scout: Led a cross-functional team of 30 volunteers as a project manager, designing and building the local K9 agility course reconstruction that improved police department training efficiency and demonstrated ambition for community service excellence
Apex Outreach Service Project: Volunteering for the local church to help rebuild homes in surrounding communities annually