NICKOLAS BARTLE

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BASEBALL DATA ANALYST

EDUCATION

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

University of Alabama, Tuscaloosa, AL — <u>Bachelor of Science in Management Information Systems</u>, *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 | Shiny Apps | Software Development | Player Development
Data Visualization | Automation | Process Optimization | Algorithms | Leadership | Mathematic Analysis | Database Management | AI Development
Data Pipelines | Systems Engineering | Database Architecture | Supervised/Unsupervised Learning | Model Deployment | Trackman | KinaTrax

TECHNICAL SKILLS

Programming Languages: Python, SQL, R, C#, HTML, JavaScript, CSS, Dax, Node.js, .Net
Technical Tools: Power BI, Tableau, Plotly, Matlib, Ggplot2, Seaborn
Machine Learning: XGBoost, Bayesian Modeling, Random Forests, Scikit Learn, GAMs, Time Series Analysis, Neural Networks, Lasso-Ridge, Stacking
Operating Environments: R Studio, VS Code, Jupyter, MySQL, SQLite, DBeaver, GitHub

PROFESSIONAL EXPERIENCE

<u>GRADUATE BASEBALL DATA ANALYST / STATISTICIAN</u>, **Wake Forest University Baseball** — *Jun 2025 – Present*
- Developed 3 comprehensive predictive machine learning pipelines from 195,000+ total fastball pitch event observations; whiff outcomes, groundball tendencies, and BABIP models using gradient boosting
- Created a pitcher grading 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
- Operated portable and stadium Trackman units, KinaTrax units, performing routine data collection tasks

<u>DATA ANALYST / INFORMATION SYSTEMS ENGINEER CO-OP</u>, **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 applying time management methodologies to deliver 3 modified plant performance models that improved productivity through scheduling changes
- Developed client-facing dashboards using collaborative development processes for operational decision-making and cost optimization using the full software development lifecycle for production management actively, while actively seeking guidance and feedback

<u>BASEBALL DATA ANALYST / STATISTICIAN</u>, **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
- Data collection through Trackman for scrimmages, bullpens, and games.

ANALYTICAL PROJECT EXPERIENCE

Bayesian Pitcher Aging & Decline Detection Personal Project Model: *(In-Development)*
- Architecting hierarchical Bayesian framework using R to model individual pitcher aging trajectories for velocity, movement, and command metrics, processing 10+ years of Statcast data to establish decline patterns and individual risk assessments
- Implementing 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
- Developing real-time posterior updating system that incorporates new performance data to continuously refine decline probability estimates, providing evidence-based decision support for workload management and roster planning
- Creating an interactive dashboard visualization using Shiny Apps to translate complex Bayesian posterior distributions into actionable insights

Deacon 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
- Used linear regression, logistic regression, weighted logistic regression, random forests, and XGBoost machine learning models to analyze data and recognize fraud applications using undersampling and lasso-ridge and proper visualizations when necessary
- Identified 88% of all fraudulent applications and highlighted key predictors that led to applications with higher risk of fraud
- Implemented a 3-tier system for dealing with fraud applications based on optimized threshold levels; high, medium, and low

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
- Configured and optimized client systems and SQL databases service records, reducing downtime by 13% while training administrators on new functionality and providing comprehensive user documentation, reflecting commitment to supportability

Future OBP Performance Prediction Project:
- Created

Brewers 1 Project:
- Created

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