

EMPLOYMENT

Data Scientist	Pitcher List	December 2019 – Present
xStats (gitlab.com/jefnic23/xstats)		
<ul style="list-style-type: none">Built an algorithm using SciPy KDTree to predict batted ball outcomes based on results of similar hits.Wrote functions that calculate sabermetric expected statistics based on predicted outcomes.Worked with the database team to implement xStats on the Pitcher List player pages.		
wES (github.com/jefnic23/wES)		
<ul style="list-style-type: none">Worked with staff writer Jordan White to create a metric called wES (weighted earned strikes) to be included on player pages.Determined weights by grouping CSW (called strikes plus whiffs) by ball-strike count and calculating z-scores.Used Pearson coefficient to show stronger correlation between wES and traditional stats than CSW.Used Cronbach's alpha implementation in Python to determine wES stabilizes more quickly than CSW.		

SOFTWARE PROJECTS

Zell Baseball (zell-baseball.herokuapp.com)

- Built a website with Flask that determines which baseball games to bet on.
- Wrote server-side Python functions to interface with the MLB Stats and FanDuel APIs.
- Client-side function periodically calls the FanDuel API and connects to the server via websockets to update money lines in real time.
- Predicted scores are generated by passing data from the MLB Stats API to an algorithm that creates run values for each factor and returns the grand total.

Tracey Nicholas Art (traceynicholas.com)

- Built an ecommerce website with Flask geared toward artists.
- Painting details are stored in a PostgreSQL database with a unique identifier that is used to retrieve images from an Amazon S3 bucket.
- Purchases are handled through the PayPal SDK.
- Built a custom CRUD page for site administrators to add product listings.

Spot The Plane (spottheplane.net)

- Game where users are given a picture of an aircraft and guess the model from four choices.
- Aircraft IDs and models are stored in a PostgreSQL database from which ten are selected randomly once a day with a seed that is constant for all users.
- Server-side Python function calls the Planespotters API and sends aircraft info to the React front end.

EDUCATION

Bowling Green, OH	Bowling Green State University	Sept 2014 – May 2016
<ul style="list-style-type: none">M.M. in Composition (GPA: 3.823)Semi-relevant Coursework: Music Tech (Logic, Pro Tools, MIDI)		
Ypsilanti, MI	Eastern Michigan University	Sept 2007 – Dec 2013
<ul style="list-style-type: none">B.Sc. in Music (GPA: 3.75, Cum Laude)		

SKILLS

- Python (Flask, Jinja2, Socket.IO, SQLAlchemy, pandas, NumPy, SciPy, scikit-learn, matplotlib, seaborn)
- PostgreSQL; AWS; JavaScript; React; HTML/CSS; Git