MING CHEN

chenm26@wfu.edu | 952.201.5057 | linkedin.com/in/mingchen-analytics | mingchen-analytics.github.io

DATA ANALYST

MS Business Analytics candidate and former head basketball coach. Built a student analytics team and the data workflow behind its game plans during the program's rise to Division I; now builds and validates basketball data in Python and SQL, from 30 seasons of NBA play-by-play to player tracking from broadcast video.

EDUCATION

Wake Forest University, Winston-Salem, NC | Master of Science in Business Analytics - Sports Analytics | *May 2027*
National Taiwan University, Taipei, Taiwan | Bachelor of Science in Chemistry | *Jan 2018*

TECHNICAL SKILLS

Programming & Tools: Python (pandas, PyTorch, OpenCV, Plotly, Streamlit) | SQL (DuckDB) | R | Excel | APIs | Git | pytest
Statistics & Modeling: Regression | Hypothesis Testing | Machine Learning | Deep Learning | Model Evaluation
Data & Analytics: Data Cleaning & Validation | EDA | Data Visualization | Dashboard Development | Reproducible Workflows

SELECTED PROJECTS

NBA Court Vision Tracker | Python, OpenCV, ONNX Runtime

- Built a pipeline converting NBA broadcast video into player and ball court coordinates in meters with uncertainty, combining object detection, frame-by-frame camera calibration and multi-object tracking; runs end to end on multi-camera broadcasts
- Designed a calibration quality gate using independent floor-color evidence, cutting wrongly accepted camera poses on unseen frames from 85% to 3.3% while rejecting only 1% of verified correct poses; backed by 121 automated tests

NBA Analytics Platform | Python, DuckDB, SQL, Streamlit, pytest

- Built a play-by-play database of 37,986 NBA games (1996-97 to 2025-26; 17.5M events, 7.3M possessions) with possession logic driven by a versioned rules file and 264 tests
- Validated possession counts against pbpstats for every team-game (97–99% identical, 2000-01 to 2015-16); traced a 2016-17 drop to clock precision and kept exact timing rather than tuning to match the reference, documenting the trade-off
- Audited source data, flagging 44 physically impossible NBA.com tracking records and cross-checking final scores for 8,883 games against a second source, finding 2 discrepancies

ECG Patient Matching | 2026 ECG-AI Build-a-Thon, 3rd Place | Python, PyTorch

- Placed 3rd with a four-person team using a contrastive-learning CNN/GRU ensemble, reaching 0.960 clinical-to-clinical and 0.930 clinical-to-Apple Watch AUROC
- Ran beat-level CNN experiments and patient-disjoint validation (3,000 development, 5,000 unseen holdout patients); traced the hardest matches to waveform change over time

EXPERIENCE

RESEARCH ASSISTANT | **Wake Forest University |** Winston-Salem, NC *Sep 2026 – Present*

- Validate corporate, exchange, and market data for a multinational firm dataset supporting faculty research on ESG-linked executive compensation, documenting source evidence to resolve coding inconsistencies
- Collect firm-level data with Python, APIs, and structured web-based collection in reproducible research workflows

HEAD MEN'S BASKETBALL COACH | **National Taiwan University |** Taipei, Taiwan *Jul 2023 – Mar 2026*

- Directed team operations, performance analysis, opponent scouting, player development, and game strategy, leading NTU to a top-four Division II finish and promotion to Division I
- Found half-court defense allowed 0.16 fewer points per possession than full-court pressure (0.92 vs. 1.08), shifting strategy

ASSISTANT COACH & VIDEO COORDINATOR | **National Taiwan University |** Taipei, Taiwan *Jul 2021 – Jul 2023*

- Founded and trained a six-member student analytics team and built an Excel possession-tagging workflow to evaluate lineups, shots, and opponents
- Turned opponent film and tagged data into scouting reports, practice priorities, and game plans

CONTENT CREATOR | **DrayDrayBear, YouTube Channel** | Remote *Jul 2019 – Jul 2026*

- Grew a Mandarin-language strategy channel to 200K+ subscribers and 32.7M+ views, using click-through rate, retention, and engagement data to guide topics, titles and thumbnails

R&D PRODUCT MANAGER | **Very Impressive Product Co., Ltd. |** Ho Chi Minh City, Vietnam *Aug 2018 – Jul 2019*

- Led 5+ carbon-fiber bicycle frame projects for Decathlon (B'Twin) and Specialized from requirements to mass production, coordinating client, engineering, manufacturing, and quality teams across five countries