MAXIMILIAN WOJCIECHOWSKI

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EDUCATION

DePaul University | Chicago, IL *Expected March 2028*

- **Master of Science in Computer Science** ***GPA: 3.8/4.0***
- Research interests: Trading, machine learning for financial markets, and AI engineering

Relevant Coursework: Data Structures I–II, Computer Systems I–II, Discrete Mathematics, Python Programming

University of New Orleans | New Orleans, LA *May 2025*

- **Bachelor of Science in Finance, Data Analytics Concentration**
- Athletic and academic scholarship; Privateer Blue Honors (Fall 2022, Spring 2023, Spring 2024)

Relevant Coursework: Investments, Financial Modeling, Quantitative Methods, Data Analytics, Accounting

Wichita State University | Wichita, KS *Aug 2020 – May 2022*

- **Bachelor of Arts in International Business**
- Athletic and academic scholarship; NCAA All-Academic Team (2021–22)

EXPERIENCE

DekaBank | Intern, Structuring & Derivatives Trading | Frankfurt, Germany *Jun 2026 – Sep 2026*

- Developed a regex-based Python algorithm that classifies thousands of dpa news articles by issuer, category, and country and maps them to client portfolios via LEI/ISIN/WKN; **currently being migrated into production**
- Built a backtesting engine to validate the classifier's output against expected issuer and portfolio mappings
- Built a Java rule engine automating counterparty classification under EU CRR, encoding **40+ bank-specific rules**, with a test suite validating edge cases and rule priorities
- Code-reviewed and performance-tested an LLM-based term-sheet comparison tool, systematically validating the quality and accuracy of its outputs (Python)
- Built an interactive world map prototype for the internal trading dashboard with Claude (TypeScript), combining internal financial data with external economic indicators; presented to senior engineers
- Wrote internal wiki documentation on AI-assisted and agent-based coding workflows, using the world map as the case study

SWOT Controlling GmbH | Intern, Financial Reporting & Systems | Berlin, Germany *Jun 2025 – Aug 2025*

- Built P&L and consolidation reports, standardizing financial data across five companies
- Translated controlling software from German to English; supported system integration and client rollout alongside the CEO

Schwanke & von Schwerin | Intern, Tax Accounting & Audit | Berlin, Germany *May 2024 – Aug 2024*

- Conducted audit preparation and document reviews, reducing filing errors by **15%**; flagged **10%** budget cost variances
- Automated Excel checks that caught input errors from company software, improving reporting efficiency

PROJECTS

Local RAG & Evaluation Pipeline ***Python, MLX, Llama 3.1 8B, Chroma***

- Built a fully local RAG pipeline over FY2025–26 10-K filings of 5 companies (Microsoft, NVIDIA, Tesla, Lockheed Martin, BlackRock), using hybrid dense + BM25 retrieval with no external API calls
- On 65 hand-verified questions: **0.87 answer score vs. 0.24** without retrieval (95% bootstrap CIs), **0.92 hit@5**; oracle tests showed generation, not retrieval, was the bottleneck

Macroeconomic Forecasting System ***TypeScript, World Bank/EIA APIs, Claude tool use***

- Built a live economic and geopolitical dashboard on **15+ data streams**, with in-browser forecasts and a 3D world map
- Added an AI analyst that answers by calling **25 live-data tools** (World Bank, EIA, ACLED, market quotes)
- Chose models by rolling-origin backtest across **217 economies** (1990–2025) under a pre-specified rule: AR(2) cut GDP error 8% (1-yr) and 20% (3-yr) vs. no-change but lost on inflation and unemployment (now no-change); IMF beat AR(2) in **142 of 185**
- 95% intervals calibrated pre-2010 covered **93–96%** of 2010–25 outcomes; weekly US natural-gas storage forecasts beat the five-year seasonal norm by **5% over 561 weeks** (Diebold–Mariano **p = 0.004**; 80% intervals covered 81%)

NEOTracker ***Swift, SwiftUI, SceneKit, NASA APIs***

- iOS app that turns NASA near-Earth-object data into real-time close-approach tracking with 3D orbits, plus a GPS-based night-sky planner computing planet positions and rise/set times (Meeus/VSOP87 algorithms)

SKILLS & INTERESTS

- **Languages:** German (native), English (C2), Polish (C2)
- **Programming:** Python, Java, TypeScript, Swift, C, Git, Claude Code; RAG (Chroma, BM25, MLX)
- **Business:** Excel (financial modeling), PowerPoint, Bloomberg Terminal
- **Activities:** NCAA D1 Golf (5 years); German National Golf Team (2018–2020); DePaul Computer Science Society
- **Interests:** Golf, geopolitics, cosmology, trading