

# THOMAS AMARA

Quantitative Finance · Investment Research · Systematic Strategies

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## PROFILE

Second-year Business Management student at the University of Southampton (First Class, 73.6%) with demonstrated experience spanning corporate operations, systematic equity research, and live portfolio management. Co-founded the University's first student investment fund, grew a live commodities portfolio by **+71%** in 2025, and earned a Top-20 UK ranking at WorldQuant with Sharpe ratios above 2.0. Trilingual (French · English · Polish); proficient in Python, Power BI, and Bloomberg. Seeking a summer internship where analytical rigour and independent thinking create real value.

## EDUCATION

### University of Southampton · BSc (Hons) Business Management

Sep 2024 – Jun 2027

First Class Honours · 73.6% Year 1 average · Southampton, UK

- Highest marks: Management Accounting **88%**, Business Analytics **82%**, Introduction to Accounting & Finance **78%**.
- Active in the Trading & Investment Society, Finance Journal, and independent quantitative research — see below.

### Lycée Franco-Allemand (LFA) · Baccalauréat Français International

Sep 2021 – Jun 2024

High Honours · 15.64/20 overall · Buc, France · Ranked top 5 nationally; dual-curriculum intensive programme

- Philosophy **19/20**, Economics **18/20**, Mathematics **15/20**.
- Class delegate and student council member; developed leadership and public representation skills.

## EXPERIENCE

### GE Healthcare · Summer Analyst

Jun – Jul 2025

EMEA Tool Calibration Centre · Operations Analytics · Buc, France

- Modelled failure probabilities for high-value medical equipment using **Weibull reliability distributions** (shape  $\beta$ , scale  $\eta$ ), identifying optimal calibration intervals that balanced cost reduction against a 95% reliability target — directly informing supplier renegotiations.
- Built automated **Power BI dashboards** (DAX) to monitor supplier performance and cost trends across the EMEA calibration network; reduced manual reporting overhead.
- Presented data-backed recommendations to the **Director of International Services Delivery**; output adopted into ongoing process review.
- Post-internship: independently extended the work into an **autonomous AI maintenance agent** combining Weibull modelling with LLM-driven diagnosis — reducing predicted unnecessary calibration events by modelling against a 95% reliability constraint.

### WorldQuant · Research Consultant

Apr 2025 – Present

Quantitative Alpha Research · Systematic Equities · US & China universes

- Design, test, and refine quantitative alpha signals integrating accounting ratios, return momentum, volatility filters, and z-score normalisation across liquid global equities.
- Flagship signal — *Alpha Fundamental Anchoring in Microstructure Noise* — achieved **Sharpe 2.03**, **Fitness 1.40**, **avg annual return +16.24%**; combines VWAP dislocation z-scores, intraday volatility compression, operating profitability rank, and contrarian return tilt. Validated via Monte Carlo robustness checks.
- Ranked **Top 20 in the UK** by WorldQuant, leading directly to a formal consultant designation.

## LEADERSHIP & PROJECTS

### UoS Investment Fund · Head of Investing & Co-Founder

May 2025 – Present

University of Southampton Trading & Investment Society · Commodities Desk · 110 members

- Co-founded the **University of Southampton's first student-led investment fund**; built and lead the Commodities Department, overseeing a **£10,000 simulated portfolio** and managing a team of **20 analysts**.
- Delivered a **+71.34% simulated return in 2025** (£10,000 → £17,134): Gold +£1,561, Silver +£3,822 (+65% on position), Platinum +£2,525 — thesis anchored in falling real yields, central bank accumulation, and structural silver supply deficits; sized using Monte Carlo simulation and a fractional Kelly framework.
- Established a professional investment process: macro research → quantitative modelling → IC presentation → live tracking vs. original thesis with pre-defined exit triggers (e.g. 10Y TIPS > 2.5%, drawdown > 20%).
- Organised external speaker events with **Schroders, PwC, and eToro**; delivered workshops on equity research and Python-based valuation.

## Southampton Finance Journal - Editor-in-Chief & Co-Founder

Sep 2025 – Present

*University of Southampton · 20-person team · 5-member academic advisory board*

- Launched the university's first student finance journal; manage a 20-person editorial team and an academic advisory board of **5 faculty researchers**, publishing fortnightly **30-page issues** averaging **2,500+ views each**.
- Grew total reach to **11,500+ readers**; secured external partnerships that materially raised the society's institutional profile.
- Personally contributed research to every issue: topics include GLP-1 sector thesis, M&A timing in premiums, European distressed large-cap strategy, and the 2025/2026 Commodities Strategy Note.

## Independent Quantitative & Financial Research

Jan 2025 – Present

*Self-directed research programme · 11 published papers · thomas-amara.com/research*

- **US Bond Market Stress Index** — built a multivariate regime-detection framework using **UMAP dimensionality reduction** and **Hidden Markov Models**, achieving **97% classification accuracy** across stress and non-stress regimes (1970–2025). First novel framework developed independently as a first-year student.
- **French Equity Macro Study** — modelled macro-to-equity transmission (1998–2025) using Random Forest, XGBoost, cointegration, Granger causality, and ARDL; identified CPI, yield curve, and PMI as dominant leading indicators.
- Further published work: Market Timing in M&A Premiums · GLP-1 Obesity Drug Sector Thesis · European Distressed Large-Cap Strategy · Virtue-Driven Worker Motivation Framework.

## SKILLS & QUALIFICATIONS

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<b>Technical</b>	Python (NumPy, SciPy, statsmodels, scikit-learn, matplotlib, pandas) · Power BI (DAX, automated dashboards) · Bloomberg · Excel (advanced) · HTML
<b>Quantitative</b>	Alpha signal design · Factor models · Portfolio construction & risk · ML (Random Forest, XGBoost, HMM, UMAP) · Econometrics (cointegration, Granger, ARDL) · Monte Carlo simulation · Weibull reliability analysis
<b>Finance</b>	Financial modelling (DCF, relative valuation, scenario & sensitivity analysis) · Investment research & due diligence · Management & financial accounting · Commodities & equities markets
<b>Languages</b>	French (native) · English (fluent) · Polish (fluent) · German (academic)
<b>Certifications</b>	Level 4 Diploma in Applied Finance · HSBC Wealth & Personal Banking Simulation (Forage) · EY Financial Accounting Advisory Services Simulation (Forage) · PwC Audit Simulation (Forage) · IBM Build an AI Agent
<b>Interests</b>	Judo brown belt · Running (VO2 max 59) · Strength training · Philosophy & economics literature · Multilingual reading (FR/EN/PL)