

Applicant Summary: EL ARGAB Nada (M4I203_ELAR1B76)

Background:

- Moroccan national, currently studying Applied Economics & Financial Engineering at Université Paris Dauphine PSL (L3)
- Strong quantitative foundation: 19/20 in baccalaureate mathematics, coursework in statistics, Python, VBA, and SQL
- Professional experience: • Banque Misr internships (2023-2024): Regulatory metrics calculation (LCR/NSFR), financial statement automation, FX position management • Developed Monte Carlo simulations and automated ratio calculations in VBA • Member of Dauphine AI Association (2024-2025) with exposure to financial applications of AI
- Career goal: Become equity derivatives structurer at top-tier investment bank

Question 1 - Statistics (Relates to regulatory metric calculations at Banque Misr) Q: When analyzing Interest Rate Risk in the Banking Book (IRRBB), how would you design a hypothesis test to validate if a bank's economic value volatility stays within regulatory thresholds? Consider both normal and stressed market conditions.

Rationale: Builds on her experience with IRRBB analysis and regulatory compliance work. Sample Answer: Use a two-tailed t-test comparing observed EVE changes against Basel III thresholds, with separate tests for baseline and stressed scenarios using historical simulation data.

Question 2 - Investments (Relates to subordinated debt analysis in 2024 internship) Q: A bank issues €500M in 10-year non-call 5 subordinated debt with a 7% coupon. If the bank's credit spread widens 150bps 3 years post-issuance, calculate the approximate price impact using duration-convexity adjustment. Assume modified duration of 6.2 and convexity of 0.8.

Rationale: Tests bond valuation skills relevant to her work with subordinated debt instruments. Sample Answer: Price change $\approx -6.21.5 + 0.50.8*(1.5)^2 = -9.3\% + 0.9\% = -8.4\% \rightarrow \text{€458M value}$.

Question 3 - Current Events (Relates to DORA and Basel III exposure) Q: How might the ECB's June 2024 adjustments to Basel III's output floor impact European banks' competitive position in structured product markets compared to US counterparts?

Rationale: Connects to her regulatory monitoring experience and career interest in structuring. Sample Answer: The 72.5% output floor could reduce EU banks' risk-weighted asset optimization advantages, potentially narrowing their structured product margins versus US banks still operating under 2023 framework.

Question 4 - AI Application (Relates to SQL automation and Dauphine AI Association) Q: Propose an AI-driven solution to enhance the NSFR calculation process you worked on at Banque Misr, specifically addressing the challenge of classifying "stable" vs "less stable" deposits.

Rationale: Combines her liquidity ratio experience with emerging AI interests. Sample Answer: Implement a transformer-based NLP model analyzing 5 years of transaction metadata and client communication patterns to dynamically adjust deposit stability coefficients in real-time.

Applicant Dossier Summary: EL HOUAT Bilal Program Applied: Master in Financial Markets
(M4I203_ELHO735D) Background Summary

Education:

Bachelor's in Economics & Business Administration, Goethe Universität Frankfurt (GPA: 1.8/5.0, where 1.0 = best).

Key courses: Statistics (Grade: 1.0), Econometric Management (Grade: 1.3) with R Studio, Mathematics, Finance.

Semester abroad at Siam University Bangkok.

Professional Experience:

Deutsche Bank: Internships in Structured Finance (export credit agency financing) and Corporate Coverage (FX/credit advisory).

Capgemini: Project management/controlling in tech transformations.

Pexon Consulting: Strategy, CRM automation, and sales operations.

Skills:

Technical: R Studio, Python (basics), financial modeling, regression analysis, hypothesis testing.

Languages: German, English, Arabic, French (B2).

Career Goals:

Equity/Emerging Markets Sales, leveraging macroeconomic analysis and client engagement.

Extracurriculars:

Leadership: HR Team Lead at Integreater e.V. (nonprofit supporting migrant youth education).

Competitive boxing (2x Hesse Champion).

Interview Questions

1. Technical Question (Statistics)

Background Link: Strong performance in Statistics (Grade: 1.0) and econometrics coursework. Question: In credit risk modeling, why might a logistic regression be preferred over a normal distribution for estimating default probabilities? Answer: Logistic regression models binary outcomes (default/no default) and handles

non-linear relationships, unlike the normal distribution, which is better suited for continuous variables. 2.

Technical Question (Investments)

Background Link: Corporate Coverage internship advising on FX/credit solutions and portfolio risk. Question: How does the correlation between assets in a portfolio impact diversification benefits, and what metric quantifies this relationship? Answer: Lower correlation reduces portfolio risk; diversification benefits are quantified using the covariance or correlation coefficient. 3. Current Financial Events

Background Link: Cited China's "DeepSeek" AI model disrupting tech stocks in his motivation letter. Question: How might escalating US-China tensions over semiconductor exports reshape investment strategies in emerging markets? Answer: Investors may pivot to local tech suppliers in EMs or hedge against supply-chain risks via derivatives, increasing volatility in tech-heavy EM indices. 4. AI in Finance

Background Link: Used R Studio for econometric forecasting; interest in structured products. Question: How could AI enhance the design of structured financial products, such as equity-linked notes? Answer: AI can optimize payoff structures by simulating market scenarios and calibrating risks using historical data, improving product customization and pricing accuracy.

HEIM Nastassia - M4I203_HEIMD488 - SUMMARY

Background:

- Current 3rd-year Bachelor's student in Management & Organizational Sciences at Université Paris Dauphine (exchange semester at Westminster University, London).
- Baccalauréat (2022) with "Très Bien" (16.01/20, 20/20 in Mathematics).
- Internship at Palatine Asset Management (2024): Analyzed equity/ESG data, built Excel models with LSEG live data, and presented macroeconomic impact studies.
- Bocconi Summer School (2023): Equity/Venture Capital coursework with focus on valuation and deal structuring.
- Technical skills: Python, VBA, Excel (financial modeling), advanced English (IELTS 8.5).
- Career interest: Buy-side/sell-side roles, quantitative analysis, structured products.

Interview Questions

1. Technical Question (Statistics)

Rationale: Her internship involved financial modeling with live data; statistical rigor is critical for interpreting market trends.

Q: "In your internship, you analyzed macroeconomic trends impacting equities. How would you design a statistical test to determine if a central bank's policy change (e.g., interest rate hike) significantly affected sector-specific stock returns?"

Sample Answer: "I'd use an event study methodology with a regression model, comparing pre/post-event returns against a control benchmark while controlling for confounding variables like market volatility."

2. Technical Question (Investments)

Rationale: She evaluated ESG factors and built SBF 120 financial/ESG dashboards.

Q: "How would you integrate ESG metrics into a quantitative equity screening model without compromising traditional financial ratios like P/E or ROE?"

Sample Answer: "Assign ESG scores as a weighted factor in a multi-criteria optimization model, ensuring thresholds for financial ratios are maintained and backtesting the strategy for sector-specific alpha generation."

3. Current Financial Events

Rationale: Her internship focused on European equities, and recent ECB policy shifts are critical to EU markets.

Q: "The ECB recently signaled a slower pace of rate cuts despite Eurozone stagnation. How might this impact French mid-cap equities, and what sectors would you overweight/underweight?"

Sample Answer: "Higher-for-longer rates could pressure leveraged sectors like utilities/real estate, favoring cash-rich tech mid-caps with export exposure to mitigate domestic demand risks."

4. AI in Finance

Rationale: She used Python for data automation and worked with ESG datasets.

Q: "How could NLP or machine learning improve the accuracy of ESG sentiment analysis for equity research?"

Sample Answer: "Transformer models like BERT could analyze earnings calls/news for subtle ESG risks, while clustering algorithms might identify sector-specific ESG outliers in unstructured data."

Applicant Summary: DE SAINT-SEINE Antoine - M4I203_DESA0DB2

ACADEMIC BACKGROUND

- Current: 3rd-year Bachelor's in Advanced Mathematics at Paris-Dauphine (2024–2025)
- Previous: Dual Bachelor's in AI & Organizational Sciences (2022–2024) with courses in statistical modeling, programming (Python/C/R), and finance
- Baccalauréat: 16.51/20 (Mention TB), 20/20 in mathematics
- GMAT: 645 (88th percentile), TOEFL: 103 (C1 English)
- Key coursework: Statistical modeling, functional programming, stochastic calculus, derivative pricing (self-studied)

PROFESSIONAL EXPERIENCE

- Repeated roles as butcher shop assistant (summers 2022–2024): Customer service, operations
- Math tutor (2022–2025): Technical communication
- Scientific educator at Les Petits Débrouillards (2022): Data simplification

EXTRACURRICULAR

- General Secretary of sports association: Event management for 700+ participants
- Co-founded Dauphine Running Club: Leadership/organization
- Competitive endurance athlete: Half-Ironman, marathon training

CAREER GOALS

- Become quantitative analyst focusing on derivatives pricing and AI applications
 - Interest in QTEM program for international quantitative finance exposure
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INTERVIEW QUESTIONS

1. STATISTICS [Linked to L3 Statistical Modeling course and Bayesian inference studies] Question: "How would you apply Bayesian inference to update portfolio risk assessments when new market data becomes available?" Rationale: Tests understanding of probabilistic reasoning in dynamic financial contexts. Sample Answer: "Bayesian methods allow continuous updating of prior risk distributions using likelihoods from new data, improving real-time volatility estimates."
2. INVESTMENTS [Linked to self-studied derivatives pricing and binomial model experience] Question: "Explain how you would construct a delta-hedged portfolio using options to mitigate directional risk in an equity position." Rationale: Evaluates practical application of derivative strategies. Sample Answer: "Short delta-equivalent options offset the underlying's price sensitivity, maintaining neutral exposure through rebalancing."
3. CURRENT EVENTS [Linked to quant career goals and macro coursework] Question: "How might the ECB's recent quantitative tightening impact convergence trading strategies in EU sovereign bonds?" Rationale: Assesses awareness of monetary policy effects on arbitrage. Sample Answer: "Reduced liquidity could widen historical spreads, creating opportunities but increasing execution risk for mean-reversion models."
4. AI IN FINANCE [Linked to AI degree track and ML interest] Question: "How could transformer architectures improve high-frequency trading latency compared to traditional RNN models?" Rationale: Probes technical knowledge of modern AI applications. Sample Answer: "Transformers' parallel processing and attention mechanisms enable faster feature extraction from order book sequences versus RNNs' sequential limitations."

Diane PLISSON - Applicant Summary

Background:

- Current Program: 3rd-year Bachelor's in Applied Economics (Economics & Financial Engineering) at Université Paris Dauphine-PSL.
- Academic Strengths:
 - High math proficiency (20/20 in Baccalauréat, 16/20 in recent math exams).
 - Coursework: Econometrics, Statistics, Financial Markets, Python/VBA programming.
 - TOEFL iBT: 110/120 (C2 proficiency).
- Experience:
 - AmplifyME Finance Accelerator (85% score in Asset Management role).
 - Private tutor (developed data-driven study strategies).
 - Basic exposure to financial tools (Gretl for regression analysis, VBA for portfolio automation).
- Career Goals: Quantitative analysis, algorithmic trading, international finance.

Interview Questions:

1. Technical Question – Statistics Background Link: Coursework in econometrics using Gretl for regression analysis. Question: "In your econometrics project, you used linear regression to analyze inflation determinants. What are the key assumptions of linear regression, and how would you test for heteroscedasticity in your model?" Sample Answer: "The key assumptions include linearity,

independence, homoscedasticity, and normality. To test for heteroscedasticity, I would use the Breusch-Pagan test or visualize residual plots."

2. Technical Question – Investments Background Link: AmplifyME Finance Accelerator (Asset Management role). Question: "During your asset management simulation, how would you evaluate the trade-off between active and passive investment strategies for a portfolio with a 10-year horizon? Include metrics you'd prioritize." Sample Answer: "I'd compare Sharpe ratios, expense ratios, and tracking error, favoring passive strategies for cost efficiency unless alpha generation is statistically significant via the information ratio."
3. Current Financial Events Background Link: Interest in international markets (mentioned QTEM program/ECB policies). Question: "The ECB recently paused rate hikes but signaled prolonged restrictive policy. How might this impact European corporate bond spreads, and what sectors would you monitor most closely?" Sample Answer: "Tighter spreads for investment-grade issuers are likely, but high-yield sectors like real estate may face pressure due to refinancing risks."
4. AI in Finance Background Link: Python programming experience and interest in algorithmic trading. Question: "How could reinforcement learning improve execution algorithms for large-block equity trades, and what data inputs would be critical to minimize market impact?" Sample Answer: "Reinforcement learning could optimize order slicing using real-time L2 book data, historical volatility patterns, and sector-specific liquidity profiles to reduce slippage."

Notes for Interviewer:

- Leverage her AmplifyME simulation experience to probe decision-making under uncertainty.
- Explore her tutoring role for soft skills (e.g., explaining complex models to non-experts).
- Contrast her strong math foundation with programming projects to assess technical depth.

Applicant Summary: LECLAIR Mathilde - M4I203_LECLA7A0

Background:

- Education: ESSEC BBA (GPA 16/20, ranked 33/621), exchange at IE Business School (Financial Engineering, Derivatives).
- Coursework: Simtrade (trading simulation), Decision and Risk Analysis (Black-Scholes, Monte Carlo), thesis on cyber insurance/CDOs.
- Professional Experience:
 - Risk Officer Intern at Kepler Cheuvreux (automated risk monitoring with Python/PowerBi, structured products analysis).
 - Sales roles (HUGO BOSS, Maison123) demonstrating client-facing skills.
- Skills: Python, Excel/VBA, Bloomberg, risk analysis, multilingual (French/English/Spanish).
- Career Goals: Trading in London, transitioning to sales later. Seeks quantitative depth via the master's program.

Question 1: Technical Question (Statistics)

Background: Her thesis and coursework involved Monte Carlo simulations for pricing derivatives/cyber risk.

Question: "Explain how Monte Carlo simulations are used to price path-dependent derivatives like Asian options. What advantages does this method offer over closed-form solutions?" Answer: Monte Carlo simulates numerous potential asset price paths, averages payoffs, and discounts to present value, accommodating complex payoff structures that lack closed-form solutions.

Question 2: Technical Question (Investments)

Background: She studied derivatives hedging strategies and interned in risk management. Question: "How would you design a delta-hedging strategy for a portfolio of European call options, and what practical challenges might arise in maintaining delta neutrality?" Answer: Delta hedging involves periodically adjusting the hedge ratio (options vs. underlying) to offset price movements; challenges include transaction costs and discrete rebalancing intervals.

Question 3: Current Financial Events

Background: Her trading career focus and experience with equity/structured products. Question: "How might escalating geopolitical tensions in 2024 (e.g., trade sanctions, energy markets) impact volatility in European equity derivatives markets, and what hedging tools would you prioritize?" Answer: Geopolitical risks increase volatility, raising demand for OTC options and variance swaps; tail-risk hedges like out-of-the-money puts may see heightened use.

Question 4: AI in Finance

Background: She automated risk monitoring at Kepler Cheuvreux using Python. Question: "How could AI/ML models enhance real-time anomaly detection in trading limits or margin compliance, and what data pipelines would be critical for this application?" Answer: AI can process real-time trade/position data with NLP for unstructured inputs (e.g., client emails), using supervised learning to flag deviations from historical patterns or regulatory thresholds.

Applicant Summary: Kim TEMAN (M4I203_TEMAF0CC)

Background:

- Education:
 - Currently in 3rd year of Applied Economics (Economie Appliquée) at Université Paris Dauphine-PSL
 - High School: Baccalauréat Générale (Mention Très Bien) with 20/20 in Mathematics
 - Relevant coursework: Probability & Statistics, Financial Products & Markets, Financial Derivatives
 - Professional Experience:
 - Abeilles Assurance (2024): Portfolio analysis/optimization, collaboration with actuarial/financial teams
 - TERLIA (2023): Financial analysis in hospitality sector, KPI dashboard development
 - Technical Skills: Python, R, VBA, Excel
 - Career Goals: Trading/structuring roles with focus on derivatives and quantitative modeling
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Interview Questions:

1. Technical Question (Statistics) Relation: Coursework in Probability & Statistics + portfolio optimization experience at Abeilles Assurance Question: "How would you use statistical measures like standard deviation and Value at Risk (VaR) to assess portfolio risk in insurance-linked investments?"
Answer: VaR quantifies maximum potential loss at a confidence level, while standard deviation measures volatility; both help balance risk-return tradeoffs in insurance portfolios.
2. Technical Question (Investments) Relation: Experience analyzing life insurance portfolios and benchmarking hotel strategies Question: "When evaluating a hotel investment opportunity, which financial metrics (e.g., RevPAR, EBITDA margin) would you prioritize and why?"
Answer: RevPAR measures revenue efficiency per room, while EBITDA margin reflects operational profitability – together they assess scalability and cash flow potential.
3. Current Events Question Relation: Interest in derivatives trading and macro strategies Question: "How might the ECB's recent rate-cut cycle impact European convertible bond markets?"
Answer: Lower rates could increase demand for convertibles as hybrid instruments offering equity upside while mitigating interest rate risk.
4. AI Application Question Relation: Python/R skills + TERLIA dashboard development Question: "How could NLP models be applied to optimize insurance product pricing based on claims data?"
Answer: NLP could extract patterns from unstructured claim narratives to identify risk factors not captured by traditional actuarial models.

Additional Notes:

- Strong quantitative profile (20/20 bac math, 15.41 GPA)
- Clear alignment between coursework (derivatives, stats) and career goals
- TOEFL 107/120 demonstrates C1 English proficiency

Applicant Dossier Summary: MUNOZ Mateo - M4I203_MUNO5F16

BACKGROUND:

- Education:
 - CPGE MP*/MPSI at Lycée Louis-le-Grand (2022-2024), with coursework in advanced mathematics, physics, and Python/OCaml programming.
 - Currently in L3 Applied Mathematics (Mathématiques Appliquées) at Paris-Dauphine (2024-2025), focusing on statistical modeling, Lebesgue probability, and derivatives/risk management.
 - High math proficiency: 237/240 in Belgian CESS (equivalent to Baccalauréat), ranked 35/42 in MP* math.
- Technical Skills: Python, C++, OCaml, R (Monte Carlo simulations, bootstrap methods).
- Experience:
 - Mentored 80+ students in mathematics at Dauphine.

- Observation periods at Candriam (asset management) and EY (actuarial science).
 - Career Goals: Asset management, with interest in quantitative strategies and risk management.
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INTERVIEW QUESTIONS

1. **TECHNICAL QUESTION - STATISTICS** Relation to Background: Experience with statistical modeling and bootstrap methods in R (mentioned in coursework). Question: "In your statistical modeling course, you used bootstrap methodologies. Explain the core principle of bootstrapping and its advantage over parametric methods when assessing the reliability of a financial model." Sample Answer: Bootstrapping uses resampling with replacement to estimate sampling distributions without assuming normality, making it robust for non-parametric financial data.
2. **TECHNICAL QUESTION - INVESTMENTS** Relation to Background: Interest in asset management and coursework in derivative products/risk management. Question: "You've studied derivative products and risk management. How would you optimize a portfolio's risk-return profile using Value-at-Risk (VaR) versus Conditional VaR (CVaR), and why might CVaR be preferable for tail-risk scenarios?" Sample Answer: CVaR averages losses beyond the VaR threshold, providing a more comprehensive view of tail risk, which is critical for stress-testing portfolios.
3. **CURRENT FINANCIAL EVENTS** Relation to Background: Interest in macroeconomic analysis (Candriam observation period). Question: "With central banks maintaining high interest rates to combat inflation, how might this impact equity/bond correlations in a multi-asset portfolio, and what adjustments would you recommend for a European-focused asset manager?" Sample Answer: Higher rates may reduce bond-equity diversification benefits, prompting a shift to inflation-protected securities or alternative assets like commodities.
4. **AI IN FINANCE** Relation to Background: Python programming experience and focus on quantitative methods. Question: "You've used Python for computational statistics. How could reinforcement learning (RL) be applied to optimize execution strategies in algorithmic trading, and what data features would you prioritize for training such a model?" Sample Answer: RL can adapt to market liquidity patterns by prioritizing features like order book depth, historical volatility, and transaction volume to minimize slippage.