
CONTACT INFORMATION	UCD Michael Smurfit Graduate Business School	<i>E-mail:</i> xiaodong.yang@ucdconnect.ie
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ACADEMIC APPOINTMENT	Doctoral Researcher and Teaching Assistant, University College Dublin	2023-
EDUCATION	University College Dublin, Ireland PhD in Banking and Finance, UCD Michael Smurfit Graduate Business School Thesis: <i>Essays on Option-Implied Information, Tail Risk, and Density Forecasting</i> Supervisors: Dr Conall O’Sullivan and Dr Richard Magee	2023-
	University College Dublin, Ireland M.Sc. Quantitative Finance, UCD Michael Smurfit Graduate Business School	2021-2022
RESEARCH INTERESTS	Option-implied information; risk-neutral and physical density recovery; tail risk; density forecasting; derivatives pricing; VaR and Expected Shortfall; empirical asset pricing; financial risk management.	
WORKING PAPERS AND RESEARCH PROJECTS	“Option-Implied Left-Tail Index and Return Predictability” Working paper. Develops an option-implied left-tail index using model-free central CDF information and GEV tail extensions to measure downside market risk.	
	“Option-Implied Density Forecasting and Market Risk Evaluation” Work in progress. Compares alternative risk-neutral density recovery methods and evaluates physical predictive densities using log score, CRPS, PIT calibration, and VaR/ES tests.	
	“Sector ETF Option-Implied Distributions and Tail Risk” Planned project. Extends index-option density and tail-risk methods to sector ETF options, with attention to de-Americanization and dividend timing.	
RESEARCH AND TEACHING EXPERIENCE	Research Assistant, UCD Michael Smurfit Graduate Business School OptionMetrics data extraction, option-chain cleaning, maturity selection, implied-volatility checks, risk-neutral density recovery, tail extrapolation, and forecast evaluation.	2023-
	Teaching Assistant and Tutor, University College Dublin Supported finance and quantitative-finance teaching, including financial economics, derivative securities, numerical methods, Monte Carlo simulation, and risk management.	2023-

PROFESSIONAL EXPERIENCE	Financial Settlement Specialist, Aspiegel / Huawei Ireland Supported financial settlement, reconciliation, monthly finance coordination, and internal-control processes for Huawei digital service business lines in Europe.	2023
CERTIFICATIONS AND RECOGNITION	Certificate in Quantitative Finance (CQF); Financial Risk Manager (FRM); Certified Management Accountant (CMA). Selected for the UCD Smurfit–Yale School of Management Security Analysis and Valuation module.	
SELECTED TECHNICAL PROJECTS	<p>“Quantitative Finance Pricing and Risk Lab” Python/GitHub project covering option pricing, Monte Carlo simulation, finite-difference methods, Greeks, density recovery, and model comparison.</p> <p>“BibFlow: Research Reference Workflow Tool” Built a Streamlit-based research workflow tool for DOI metadata retrieval, BibTeX/RIS/HTML input parsing, duplicate checking, reference quality reporting, and export-ready BibTeX cleaning.</p> <p>“SPY Direction Forecasting with Machine Learning” Built an LSTM-based forecasting pipeline with technical indicators, Boruta feature selection, clustering, and simple trading-rule evaluation.</p>	
TECHNICAL SKILLS	<p>Programming: Python, SQL, MATLAB, R, Julia, LaTeX, Git/GitHub; working knowledge of C++.</p> <p>Quantitative finance: Derivatives pricing, stochastic calculus, Monte Carlo simulation, implied volatility, density recovery, tail-risk modelling, VaR/ES, and forecast evaluation.</p> <p>Python stack: pandas, NumPy, SciPy, scikit-learn, statsmodels, matplotlib, TensorFlow/Keras, Jupyter.</p>	
LANGUAGES AND INTERESTS	Mandarin Chinese (native); English (professional working proficiency). Interests include football analytics, quantitative betting research, GitHub-based research communication, boxing, gym training, and Travelling.	