

## **A. Ajakh**

Johns Hopkins Carey Business School  
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### **US ACADEMIC APPOINTMENTS**

**2021-Present:** Senior Lecturer in Finance, Johns Hopkins Carey Business School.

**2014-2020:** Lecturer in Finance, Johns Hopkins Carey Business School.

**2013-2014:** Adjunct Professor in MS Finance, Johns Hopkins Carey Business School, Baltimore, MD

### **PROFESSIONAL WORK EXPERIENCE**

**2018-Present:** Subject Matter Expert (SME), Consulting and Advisory

- **2024-present:** Advisory on structured real estate/fixed income products, fund design, liquidity and risk management, Land Services Group, Canada.
- **2023:** Data Scientist and Research at Social Security Administration (SSA). Design, development, and implementation of Large Language Models (LLMs) using state of the art Transformers framework and deep learning for race and ethnicity prediction. GPU computing on AWS cloud using PyTorch and Tensorflow
- **2021:** Senior Risk Analyst at Commodity Trading Futures Commission (CFTC). In charge of analyzing Interest Rate Derivatives for Over the Counter (OTC) Uncleared transactions. Classification and outlier detection using the CFTC weekly SWAP transaction data using SAS, SQL, Python and VBA.
- Prior to January 2021, I oversaw designing and implementing a system for facilitating transactions for Health and Human Services (HHS) using Natural Language Processing (NLP) and Machine Learning using Tensorflow and Karas.

**2011-2018:** Managing Partner and Co-Founder, Fitzroy Capital Management, New York, NY.

- In charge of strategy development and research. The strategies include tactical and global asset allocation models and quantitative short-term mean-reversion applied to single stocks and equity index futures.
- Presentation and marketing to potential investors.
- The longer-term models use a unique proprietary risk management overlay especially designed to hedge tail risk. The models were developed and traded live for six years.

**2009-2011:** Managing Director, Head of Research at Resource Production Advisors, New York, NY. The company is both an investment entity and a FINRA registered broker-dealer.

- Pricing and modeling of a new patent-pending security in the capital structure of commodity-producing companies using fuzzy-set theory.
- Presentation and marketing to potential issuers and investors in the commodity markets.

**2007-2009:** Managing Director, Head of Research at Stonebrook Capital Management (Macro hedge fund with \$400 MM AUM at its peak), New York, NY.

- In charge of the research and implementation of a currency trading fund using multi-factor risk models and currency risk premium.
- In charge of the quantitative research and implementation of an Alternative Beta product. The product replicates the global hedge fund index and has had the best track-record in the industry since May 2006.
- Presentation and marketing to potential investors.

**2006-2007:** Director, Treesdale Partners, LLC (Fixed-Income hybrid Fund with over \$1.3 billion Assets Under Management (AUM) during this period), New York, NY.

- Responsible for the design and implementation of risk models taking into account fixed-income factor constraints.
- Successfully implemented an asset allocation model using stochastic optimization and Monte-Carlo simulations.

**2003-2006:** Senior Analyst and Vice President at Morgan Stanley Investment Management, Alternative Investment Partners, and Process Driven Strategies. New York, NY.

- In charge of selecting and monitoring statistical arbitrage managers, quantitative fundamental long-short equity funds, Commodity Trading Advisors (CTA), quantitative macro and volatility arbitrage managers for the whole Alternative Investment portfolios. Total AUM represents more than \$6 billion. In charge of a portfolio of \$500 MM.
- Responsibilities include defining and measuring the principal risk factors within each strategy in a systematic framework. Successfully designed and implemented a portfolio optimization model based on stochastic dominance framework.
- Direct modeling of quantitative strategies and statistical arbitrage models in the Morgan Stanley Investment Management Absolute Returns Strategies Group in charge of design of predictive multi-factor equity market models applied to emerging markets and Japan.

**1999-2003:** Research Analyst at AXA Alternative Advisors ("AXA-AA", AXA Investment Management Group's Fund of Hedge Funds unit with AUM of approximately \$1 Billion), New York, NY.

- Selected quantitatively driven hedge funds and CTAs based on trading strategy, performance analysis and on-site due diligence.
- Developed a multi-user database allowing AXA-AA to keep track of daily, weekly or monthly data of managers and generate statistical and risk reports.
- Advised and implemented dynamic asset allocation models based on statistical indicators using daily returns of several CTAs. The models identify 'entry' and 'exit' points where the allocation can be increased or decreased respectively.
- Participated in developing structured and guaranteed products with the AXA-Alternative Advisors' fund of hedge funds as the underlying assets. Performed Monte-Carlo simulations with stochastic volatility models in the hedge funds framework to calibrate the products. The guaranteed structure used the Constant Proportion Portfolio Insurance (CPPI) model to dynamically hedge the overall portfolio.
- Designed and implemented risk management tools such as VaR models and non-Gaussian risk envelopes.

- Proposed and implemented portfolio rebalancing based on market cycles and macro-economic views.

**1997-1999:** Acting Assistant Professor and Senior Scientist at the “*Conservatoire National des Arts et Métiers (CNAM)*”<sup>1</sup>, University of Paris, France.

- Co-Supervised a Ph.D. student in Fluid Dynamics & Heat Transfer.
- Designed & lectured graduate level courses in Heat Transfer, Chaos Theory, Turbulence & Hydrodynamic Instabilities.

TEACHING (Johns Hopkins Carey Business School)

- Financial Modeling and Valuation, 2013 – present, onsite, and online
- Corporate Finance, 2014-2015, onsite
- Investments, 2014-present, onsite, and online
- Financial Institutions, 2015-2018, onsite
- Lead on designing and delivering the online version of Financial Modeling and Valuations
- Fixed Income, 2015-present, onsite, and online
- Online Wealth Management and Corporate Finance, 2021-present
- New material: This year I have added new material to the online Fixed Income, Financial Modeling and Valuation, Corporate Finance and Wealth Management.

## **EDUCATION**

**Ph.D.** in Physics with *highest distinctions* in Fluid Dynamics & Heat Transfer, 1997, University of Nantes, France.

**M.S.** in Physics with *highest distinctions for thesis* in Magnetohydrodynamics, 1992, University of Grenoble, France.

## **SERVICE**

- Lead on designing and delivering Fixed-income related material for Johns Hopkins Carey Business School graduate finance program both online and onsite.
- Extensive work with MS Finance students for interview preparation and job placements in the financial industry.
- Member of practice-track faculty hiring committee, 2017-2018.
- Member of Strategic IT committee since 2017.
- Mentor for adjunct faculty 2019-present.
- Member of Library E-Resources Acquisition Committee.
- New student advisory for career development in asset management, 2023
- Committee member for the student managed investment fund with Yuval Bar-Or and Xiaohua Hu.

## **SELECTED PUBLICATIONS**

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<sup>1</sup> *CNAM* is the only French institution supervised by the French Ministry of Higher Education and Research for continuing education.

- *This Time IS Different, but It Will End the Same Way: Unrecognized Secular Changes in the Bond Market since the 2008 Crisis That May Precipitate the Next Crisis*, D. Zwiern, J.K-S. Liew and A. Ajakh, *The Journal of Fixed-Income*, Fall 2019: 29(2), 66-91. The paper is in the top 10% of all-time downloads on SSRN.
- *Volatility-Adjusted 60/40 versus 100—New Risk Investing Paradigm*, *Journal of Risk and Financial Management*, Volume 13, 2020 with Jim Liew.

### **WORKING PAPERS**

- *Tail-risk management using volatility weighted portfolio leverage*, In preparation for publication in 2024.
- *Does the corporate bond market ETFs compensate investors according to risk? In preparation for publication in 2024*, with C. Lawson (Graduate student)
- *Conversion models for tax variability hedging in retirement and wealth management*, In preparation for publication in 2024.

Over 17 publications in the field of Physics of Fluids.