



1 N. LaSalle St. | Suite 2900 | Chicago, IL 60602

COLLIN STARKWEATHER, PH.D.
Senior Affiliate

EDUCATION

UNIVERSITY OF COLORADO AT BOULDER, PhD, Economics
UNIVERSITY OF COLORADO AT BOULDER, MA, Economics
UNIVERSITY OF COLORADO AT BOULDER, BA, Mathematics

PROFESSIONAL EXPERIENCE

LUMINOS.AI

Chief Data Scientist, 2023 – Present

LUMINOS.LAW (formerly BNH.AI)

Director of Data Science, 2022 – 2023

STARKWEATHER ECONOMICS

President, 2018 – Present

CHICAGO PARTNERS GROUP

2008 – 2018

CHARLES RIVER ASSOCIATES

Principal/Contractor, 2013 – 2018

CHICAGO PARTNERS/NAVIGANT

Director/Academic Affiliate, 2008 – 2013

SHANGHAI UNIVERSITY/SILC

Foreign Expert/Business and Economics Lecturer, 2012 – 2013

YUNNAN UNIVERSITY

Foreign Expert/Advisor, 2006 – 2008

TRACKVIA

Consulting Software Architect, 2006

LEXECON

Economist, 2004 – 2006

ABSOLUTE PERFORMANCE, INC.

Consulting Software Engineer, 2001 – 2003

THE ACTIVE NETWORK, INC.

Senior Software Engineer, 1999 – 2001

FIELDS OF SPECIALIZATION

Technology, competition, finance, and the economics of industrial organization. Dr. Starkweather has experience in a wide variety of areas, including algorithm design and algorithmic bias in AI and ML models, development of software tools using generative AI systems including LLMs, AI and ML model and data governance, data privacy and security audits, software design and analysis, antitrust regulation and enforcement, securities regulatory and compliance matters, damages valuation, patent and other intellectual property disputes, and class certification. He regularly publishes and speaks on topics including AI/ML, intellectual property, competition, finance, and cryptocurrency.

SELECTED ENGAGEMENTS

Competition, Technology, and Intellectual Property

- **Generative AI** – Created software tools for evaluation of fairness and mitigation of bias and toxicity in legal workflows using generative AI including large language models (LLMs).
- **AI Audits** – Performed audits of AI and ML systems including generative AI models to assess model risk and regulatory compliance as well as model and data governance policies and procedures.
- **Algorithmic Bias** – Created analytical methods and software tools to evaluate and mitigate potential algorithmic bias in AI and ML models used for consumer lending, health care provision, and other applications.
- **Data Privacy** – Created software tools to evaluate data privacy, security, and transparency.
- **Market Manipulation in Financial Markets** – Worked with prominent financial institutions to perform economic analysis in connection with high-frequency trading and allegations of manipulation of benchmarks in a variety of financial markets.
- **Pro Sys v. Microsoft** – Analyzed competitive market dynamics, technology developments, and other issues related to class-action litigation alleging anti-competitive conduct involving Microsoft.
- **News America** – Analyzed terabyte-scale datasets related to antitrust claims regarding in-store and coupon publication marketing businesses.
- **Go v. Microsoft** – Analyzed competitive market dynamics, technology developments, and other issues related to private litigation alleging anti-competitive conduct involving Microsoft.

- Ikon – Analyzed terabyte-scale datasets related to antitrust claims regarding lease and service agreements in the copier industry.
- Novell v. Microsoft – Analyzed competitive market dynamics, technology developments, and other issues related to private litigation alleging anti-competitive conduct involving Microsoft.
- Microsoft v. Motorola Mobility – Analyzed antitrust and intellectual property issues related to a patent dispute between Microsoft and Motorola Mobility (acquired by Google) that resulted in a landmark decision regarding RAND/FRAND rates.
- Datel v. Microsoft – Analyzed competitive market dynamics, technology developments, and other issues related to private litigation alleging anti-competitive conduct by Microsoft and patent infringement by Datel.
- Mississippi v. Microsoft – Performed competitive and other market analyses for antitrust litigation brought by the Attorney General of the State of Mississippi following settlement of the federal litigation against Microsoft.
- Whole Foods/Wild Oats – Analyzed detailed scanner data for government regulatory authorities in the Whole Foods / Wild Oats merger remand proceeding.
- AT&T/SBC – Conducted a variety of competitive analyses involving allocation of fiber networks, network capacity, and other factors relevant to merger review.
- Verizon/MCI – Prepared responses for both DOJ and FTC second requests. Conducted a variety of competitive analyses involving allocation of fiber networks, network capacity, and other factors relevant to merger review.

Finance

- Social Media Analysis - Performed and supervised analysis of social media for a matter involving allegations of the use of social media to manipulate securities prices.
- Allianz Fund Collapse - Analyzed hedging and portfolio strategy surrounding the collapse of the Allianz Global Investors Structured Alpha family of funds.
- Navient - Performed numerical analyses and managed a team of analysts to review terabyte-scale datasets associated with several large portfolios of student loans.
- Market Manipulation in Financial Markets – See corresponding entry in competition engagements above.
- Manipulative Trading – Worked with several financial institutions to create analytical methods and software tools for regulatory and compliance issues related to alleged manipulative trading behaviors such as spoofing and banging the close.

- Delaware Appraisals – Performed and supervised market analyses for several matters involving corporate valuation for Delaware appraisal litigation.
- AIG – Performed numerical analyses and provided all aspects of case management for the Starr International Company, Inc. v. U.S.A. litigation related to the so-called bailout of AIG.
- Lehman/Barclays – Managed data warehousing and securities valuation and analysis for several teams that reviewed asset valuations for the Lehman Brothers/Barclays Capital litigation following the collapse of Lehman Brothers.
- Bear Stearns Hedge Fund Collapse – Performed research and analysis and managed a team that analyzed market conditions surrounding the collapse of two prominent Bear Stearns hedge funds in 2007.
- CDO Management and Valuation Analysis – Analyzed various aspects of CDO asset management for a prominent investment advisory firm and critiqued asset valuation methodologies in a matter involving CDO² underwriting and issuance.
- 10B-5 – Designed analytical tools, analyzed data and performed damages calculations for a variety of matters involving SEC Rule 10b-5 allegations.
- Employee Stock Option Valuation – Created analytical methods and software to value employee stock options with a variety of non-standard features for several companies.
- Enron – Evaluated the role of the Enron board of directors in Enron's collapse. Managed a team that reviewed and analyzed internal Enron documents as well the Batson Report and other documents related to litigation. Assisted an outside expert directly in his review and analysis.

Other Matters

- NBA CBA – Worked with the NBA Players' Association (NBPA) to analyze economic issues related to the NBPA's negotiation of the 2011 Collective Bargaining Agreement (CBA) with NBA team owners.
- De-identification – Analyzed health care datasets for several pharmaceutical firms to determine the degree to which they could be considered de-identified according to HIPAA privacy guidelines.

HONORS AND FELLOWSHIPS

- Shanghai University / SILC “New Star” Teaching Award (悉商新人奖), 2012
- Yunnan Province Friendship Award (云南省外国专家彩云奖), 2007

- Economics Department Doctoral Research Fellowship Recipient, 1999
- Wesley J. Yordon Prize for Microeconomics, 1998-1999

POPULAR PRESS ARTICLES AND ACADEMIC PUBLICATIONS

- “Dos and Don’ts for GenAI in Expert Work.” With Izzy Nelken and Jey Kumarasamy. *Wolters Kluwer*, February 20, 2024.
- “Generative AI Model Evals: A Primer for Compliance Officers.” With Ekene Chucks-Okeke. *Law360*, January 24, 2024.
- “How Intellectual Property Rights Can Complicate NFT Market.” With Izzy Nelken and Sam Miller. *Law360*, August 17, 2021.
- “AI incidents in financial services: part two - getting ahead of the problem.” With Patrick Hall. Thomson Reuters, *Regulatory Intelligence*, November 18, 2020.
- “AI incidents in financial services: part one - learning from the past.” With Patrick Hall. Thomson Reuters, *Regulatory Intelligence*, November 17, 2020.
- “Behind the Curtain: The Role of Explainable AI in Securities Markets.” With Izzy Nelken. Wolters Kluwer, *Securities Regulation Daily*, July 31, 2020.
- “Artificial Intent: AI on the Trading Floor.” With Izzy Nelken. *Law360*, January 23, 2019.
- “Crypto Set to Drive Demand for Traditional Services - Part 2.” With Izzy Nelken. *Law360*, April 24, 2018.
- “Crypto Set to Drive Demand for Traditional Services - Part 1.” With Izzy Nelken. *Law360*, April 23, 2018.
- Revised “The ‘Phase-II-Growth’ Behavior of Multinational Firms and Regulation” by Cao Heping. *Social Sciences in China*, Summer 2007.
- “Green Tax Reforms and Computational Economics.” With Christoph Böhringer et al. *Computational Economics*, August 2003.

WORKSHOPS AND PRESENTATIONS

- “Exploring the Legal and Business Impact of Digital Currencies.” Law.com General Counsel Midwest SuperConference, Chicago, USA, October 2021 (Speaker and Panel Moderator).
- “Patent Wars: Insights into Global Intellectual Property Disputes.” University of Shanghai for Science and Technology, Shanghai, China, October 2019 (Presenter).

- “Issues on the Forefront of Big Data, Artificial Intelligence, and Securities Market Regulation.” Guizhou Bar Association, Guiyang, China, October 2019 (Presenter).
- “Code Is Law - A Practical Primer on Software and Structured Data in Evidence.” Stradley Ronon, Chicago, USA, August 2019 (Co-presenter).
- “Artificial Intelligence and Machine Learning in Financial Markets.” University of Shanghai for Science and Technology, Shanghai, China, May 2019 (Presenter).
- “Artificial Intent: The Question of Intent in the Age of Artificial Intelligence.” Stradley Ronon, Chicago, USA, March 2019 (Co-presenter).
- “Do Algorithms Dream of Market Manipulation? And Do They Intend To?” Chicago Bar Association, Chicago, USA, March 2019 (Co-presenter).
- “High Frequency Trading in Securities Markets: Man vs. Machine.” University of Shanghai for Science and Technology, Shanghai, China, November 2018 (Presenter).
- “Understanding the Global Credit Crisis.” University of Shanghai for Science and Technology, Shanghai, China, November 2017 (Presenter).
- “SEPs, SSOs, F/RAND and the Economics of Microsoft v. Motorola.” John Marshall Law School, Chicago, USA, October 2014 (Presenter).
- “Applications of Econometrics to Liability and Damages Estimation in Securities Litigation.” Shanghai Jiaotong University, Shanghai, China, November 2012 (Presenter).
- “Introduction to CGE Modeling with GAMS and MPS/GE.” University of Colorado, USA, February 2003 (Technical Assistant).
- “Computable General Equilibrium Modeling with GAMS.” Universität Münster, Münster, Germany, August 1999 (Presenter).
- “Development Tools for Computational Modeling.” Ministry of Business and Industry, Copenhagen, Denmark, July 1999 (Lead Presenter).