

I began my career on Wall Street with stints at Morgan Stanley (Capital Markets, Equity Research) and the World Bank (IFC, private equity arm) after studying Economics at Berkeley.

For over 15 years, I've led UX, Product Engineering and 0-to-1 Venture Strategy as an entrepreneurial force multiplier for startups, enterprises, and civic-driven teams. I'm fascinated by financial markets innovation, behavioral/narrative economics, data visualization, system thinking and design for good.

Research : Focus

Cryptographic trust protocols for multi-agent networks where participants may be adversarial. How agents establish legitimacy, monitor one another, and build reputation without centralized authorities.

Research: Interests

Trust & Reputation Protocols
Distributed Verification Systems
Mechanism Design for Multi-Agent Systems
Cryptographic Trust Primitives
Byzantine Fault Tolerance

My current work with GTCX focuses on cryptographic trust protocols for multi-agent systems—designing mechanisms that enable verification without centralized intermediaries. I'm particularly interested in how these protocols generalize from human agents to AI agent networks, and whether verification systems built for adversarial human environments translate to LLM ecosystems. This position addresses questions I'm deeply engaged with around trust, mechanism design, and multi-agent coordination.

Let's Talk.

[Schedule a Chat](#)

EDUCATION + COURSEWORK

Bachelors of Science (BSc), Economics	University of California at Berkeley
NCAA Division I Collegiate Athlete (PAC-12 Conference, All Academic)	2001 - 2006
Web3 and Blockchain Fundamentals	INSEAD
Fintech: Foundations & Applications of Financial Technology Specialization	Wharton, University of Pennsylvania
Decentralized Finance (DeFi): The Future of Finance Specialization	The Fuqua School of Business, Duke University
Fintech Law and Policy	The Fuqua School of Business, Duke University
Perspectives on Digital Transformation: Financial Inclusion	Banco Interamericano De Desarrollo (BID)
Introduction to ESG	Corporate Finance Institute

CURRENT RESEARCH & IMPLEMENTATION

GTCX (Global Trust & Compliance Exchange) Protocol Architect

Research Context: Legitimate small-scale producers in frontier markets face systematic exclusion from global supply chains due to the inability to prove compliance. Traditional verification infrastructure (third-party audits, institutional certification) is prohibitively expensive relative to transaction values. Protocol Suite:

- **TradePass (Identity & Reputation):** Cryptographic identity verification through distributed witness networks. Agents vouch for other agents, creating reputation graphs resilient to collusion and identity multiplication attacks. Reduces verification time from weeks to seconds while lowering costs by orders of magnitude.
- **GeoTag (Location Attestation):** Multi-source verification combining GPS, cellular triangulation, and social attestation. Addresses the challenge of proving provenance when individual signals can be compromised.
- **GCI (Global Compliance Index):** Privacy-preserving compliance scoring using zero-knowledge proofs. Enables agents to prove compliance without exposing sensitive operational data.
- **VaultMark (Custody & Audit):** Tamper-evident chain-of-custody preventing verification washing and ensuring traceability throughout supply chains.
- **PvP (Payment-versus-Physical):** Atomic settlement ensuring both-or-neither execution, eliminating counterparty risk in cross-border transactions.

Implementation Infrastructure:

- **PANX Verification Oracle (pilot-ready):** Byzantine fault-tolerant consensus layer orchestrating protocol verification
- **Cortex Analytics (pilot-ready):** Real-time intelligence system ingesting PANX proofs, detecting anomalies, triggering re-verification, and providing operator dashboards
- **Nyota AI Platform (operational):** Distributed AI mesh network delivery protocols via Telegram with multi-language support
- **ANISA Cultural Intelligence (in development):** Sovereignty-preserving authentication adapting to diverse cultural trust models

THEORETICAL FRAMEWORKS

Ubuntu Economics: Game-Theoretic Foundations for Cooperative Multi-Agent Systems

Mechanism design where cryptographic enforcement enables cooperative equilibria that institutional arrangements cannot sustain in low-state-capacity environments. Agents prove contributions to community welfare through distributed witness networks, creating Nash equilibria where defection is cryptographically detectable.

Infrastructural Legitimacy Theory: Protocol-Based vs. Permission-Based Trust

Framework distinguishing how cryptographic trust protocols create different legitimacy dynamics than centralized authentication. Protocol-based trust enables graduated reputation recognition where permission-based trust requires authorities that may not exist or cannot be trusted.

Publications in Development::

- **"Ubuntu Economics:** Mechanism Design for Community-Optimizing Multi-Agent Systems"
- **"Infrastructural Legitimacy Theory:** Protocol-Based Trust in Open Agent Networks"
- **"Cryptographic Verification as Trust Infrastructure:** Evidence from Frontier Markets"

PROPOSED RESEARCH AGENDA (MARCH – AUGUST 2026)

1. **Reputation Protocol Design Under Byzantine Assumptions**

How reputation propagates through agent networks when witnesses are unreliable. Attack resistance against collusion, identity multiplication, and reputation washing. Graph-theoretic analysis of trust network dynamics. Formal verification of protocol security properties.

2. **Mutual Oversight Mechanisms Without Centralized Enforcement**

Economic incentives enabling agents to monitor one another. Conditions under which distributed oversight outperforms centralized auditing. Privacy-preserving accountability using cryptographic primitives. Game-theoretic analysis of equilibrium properties. Infrastructural Legitimacy Theory: Protocol-Based vs. Permission-Based Trust

3. **Protocol Implementation & Empirical Validation**

Prototype trust protocols for LLM agent networks. Empirical validation through Ghana pilot deployment data. Comparative analysis of centralized versus distributed trust mechanisms. Open-source protocol library for broader ecosystem adoption.

4. **Formal Analysis & Theoretical Contributions**

Byzantine fault tolerance proofs for trust protocols. Network effects modeling: how trust scales with agent population. Game-theoretic equilibrium analysis of reputation systems. Security bounds under various adversarial assumptions.

PROFESSIONAL EXPERIENCE

Contributor | HUMAN x KIND

Mission-driven engineering and design studio; Nyota AI distributed mesh network development

AI Solutions Architect | A3 Human Research + Design

0-1 ventures, UX strategy, AI-driven MVP development; analytics, automation, and augmented intelligence capabilities

Trading Platform Design Lead | FalconX360 (FalconX)

First UX hire for institutional crypto prime brokerage; enabled market-leading speed for 0-1 product development

Enterprise User Experience Architect | Acuity International

Led UX redesign for distributed geospatial systems (ElasticSearch, ESRI, ArcGIS); generated \$30M pre-sales pipeline through verification workflow co-design

Open Source Solutions Architect | Open Ventures

Led Ruby on Rails adoption for U.S. Army Corps of Engineers; established open source protocols and compliance measures

Solutions Architect | Wildfyre Group

Early-stage venture advisory; 0-1 product development; \$25M+ capital deployed based on technical architecture review

Senior Investment Associate | IFC/World Bank Group

Structured \$2B+ investments across Latin America, Middle East, North Africa, Sub-Saharan Africa; commodity markets and frontier market infrastructure; Investment Committee and World Bank Board presentations

Capital Markets / Equity Research Associate | Morgan Stanley

Global energy team; authored investment research on exploration & production equities; built programmatic forecasting models

SPEAKING & THOUGHT LEADERSHIP

Information Architecture Conference (IAC) 2024 | Co-Presenter

"Foundations + Information = The Potential Futures of Unsettled Past"

Exploring AI and information architecture for ethical socio-technical systems; focus on trust, verification, and human-AI interaction

European Information Architecture Conference (EUROIA) 2023 | Keynote Speaker

"The Universal Principles of the Attention Economy"

Presented United Nations sponsored work addressing trust, manipulation, and governance in digital information ecosystems