Yongyan Liu

Email: liuyongyan@gmail.com | Mobile: (+65) 85006880

Columbia University *MSc in Biostatistics* Sep 2024 –Present | New York, NY

Fudan University *BS in Computer Science* Sep 2003 –Jun 2007 | Shanghai, China

RESEARCH INTERESTS

Applying machine learning and artificial intelligence to analyze large-scale biological datasets for aging research. Broadly interested in using computational approaches to understand the mechanisms of aging and develop interventions to improve healthspan and longevity.

PROFESSIONAL EXPERIENCE

Fintopia Group *Founder* Jan 2015 –Present | Singapore

Founded fintech company providing accessible credit to underserved populations globally (salaried workers, small business owners, farmers, rural communities) through AI-driven alternative credit scoring, operating brands including 洋钱罐借款 *(China), Easycash (Indonesia), Credmex (Mexico), and MabilisCash (Philippines).*

Scale and Impact:

- **Built AI-driven platform serving 184 million users across China, Indonesia, Mexico, and Philippines**, processing $78.2 billion in cumulative loan transactions.
- **Easycash became Indonesia's largest online lending platform** with 7+ million borrowers and $3.9 billion in disbursements since 2017, providing financial access to traditionally underserved groups including farmers and small entrepreneurs.
- **Partnered with 115+ financial institutions globally**, creating ecosystem that has facilitated financial inclusion for millions without traditional credit histories.

AI and Machine Learning Innovation:

- **Pioneered deep learning models for credit risk assessment** analyzing millions of non-traditional data points per individual (behavioral patterns, transaction histories, mobile usage) to predict creditworthiness —directly transferable to developing prognostic models using multi-modal biomarkers (genomic, clinical, lifestyle) for aging and disease risk.
- **Designed real-time fraud detection system** processing billions of transactions annually, using anomaly detection algorithms to distinguish normal variation from true fraud with >95% accuracy.
- **Implemented NLP pipelines** for automated information extraction and classification from unstructured data sources.
- **Built cross-population machine learning framework** that successfully adapted models across four countries with distinct demographic, economic, and behavioral characteristics —essential for studying aging across diverse genetic backgrounds and environmental exposures.

Leadership and Organizational Growth:

- Scaled company from inception to **2,000+ employees including 800+ data scientists and engineers**; built and led multidisciplinary teams across engineering, data science, product, operations, and regulatory compliance.
- Directed international expansion adapting AI systems to different regulatory environments and population characteristics; managed multiple funding rounds totaling over $200 million.
- **Led COVID-19 emergency response in Mexico and Indonesia (2020)**: When pandemic created supply chain crisis forcing business closures, provided immediate short-term financing to local small businesses and entrepreneurs to sustain operations.

Facebook *Engineering Manager, Payment Platform* Mar 2010 –Aug 2014 | Menlo Park, CA

- **One of four founding engineers** of Facebook Payments team, served as **team architect** building the backbone system through which billions of dollars flow daily today —demonstrating ability to design foundational infrastructure for systems that scale exponentially.
- **Led Payment Engine project**: Initiated and directed complete 2-year rewrite of entire payments infrastructure (billing and transaction systems), overcoming organizational skepticism to deliver system that remains Meta's

payment processing foundation over a decade later.

- **Scaled payment processing from single-digit billions annually to billions daily**, designing systems that grew with Facebook's explosive growth while maintaining <100ms latency and 99.99% uptime —critical expertise for processing large genomic datasets and building real-time bioinformatics pipelines.
- **Led 60-member engineering team** across multiple initiatives including Facebook Credits (multi-billion dollar virtual currency), local currency migration, and integration with dozens of payment partners.
- **Developed algorithmic fraud detection system** analyzing transaction patterns from billions of global transactions, building models to distinguish normal behavioral variation from anomalies —methodology transferable to identifying disease-associated patterns in population health data.
- **Created "Pay Later"credit scoring system** using machine learning on behavioral data to predict repayment likelihood without traditional credit history —analogous to predicting biological age or disease risk from novel biomarkers.

Google *Software Engineer & Tech Lead, Product Search* Jul 2007 –Mar 2010 | Beijing, China

- **Led team launching Google Product Search across East Asia** (China, Japan, Korea), developing multilingual NLP framework for cross-language text processing and classification —techniques applicable to analyzing genomic sequences and biomedical literature across international databases.
- **Co-developed Google Pinyin Input Method Engine** using statistical language models and frequency-based ranking algorithms, achieving **20 million daily active users** (2010).

RESEARCH PHILOSOPHY & PERSONAL MOTIVATION

As someone who has traveled to over 70 countries and pursues physical activities with dedication, including skiing across four continents from European peaks to Andean slopes, scuba diving with 200+ dives exploring marine ecosystems, and playing golf, I have developed a profound appreciation for the beauty and resilience of carbon-based life in all its forms.

Witnessing the rapid advancement of artificial intelligence over recent years, I believe humanity will eventually face a fundamental choice: the path of silicon-based existence through digital consciousness, or the continued evolution of our carbon-based biological form. While I respect the silicon path, I am deeply drawn to preserving and enhancing carbon-based life. The elegance of biological systems, self-repairing, adaptable, conscious organisms shaped by billions of years of evolution, represents something precious worth fighting for.

I view biological systems through a computational lens: DNA and RNA as information-rich datasets encoding life's instructions, proteins as functional outputs of genetic programs, cellular processes as orchestrated algorithms, and aging as accumulated errors in biological information processing. This perspective, shaped by two decades developing AI systems that extract meaningful patterns from massive datasets representing diverse populations, has convinced me that the same computational approaches revolutionizing technology can unlock the mysteries of aging.

My career has focused on using machine learning to solve previously intractable problems, including predicting individual outcomes from complex multidimensional data, identifying subtle patterns across heterogeneous populations, and building systems that learn and adapt. These skills are directly applicable to aging research: analyzing multi-omics data to identify longevity biomarkers, predicting individual aging trajectories, and discovering interventions to extend healthspan. I want to use AI not to replace carbon-based life, but to help it thrive by developing computational tools that enable us to understand and enhance the biological processes that make life beautiful, extending not just lifespan but the quality of our physical existence on this planet.

Personal Awards

- Gold Medal, National Olympiad in Informatics in China 2002
- Silver Medal, ACM International Collegiate Programming Contest (Asia Regional) 2002
- First Prize Fellow, National Physics Olympiad of Secondary School in China 2000

Company Awards

- KPMG China Fintech Companies Double 50 List –Fintopia 2022, 2023, 2024
- Deloitte National Top 50 High-Tech and Growth Companies –Fintopia 2023, 2024
- The Corporate Reputation Award from from The Iconomics –Easycash 2025
- Shiaf Awards for Innovation Oriented Brand –Fintopia 2023