KISHORE VASAN

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OBJECTIVE STATEMENT

I am a computational social scientist, investigating the impact of new technologies like blockchain, metaverse, and AI on human behavior, and developing ways to promote social connections, foster innovation, and reduce inequality. With expertise in machine learning, causal inference, and network science, I bring a valuable skill set to cross-disciplinary projects. My work emphasizes a commitment to translating data insights into actionable impact.

EDUCATION

Northeastern University *September 2020 - May 2025*
PhD in Network Science Boston, Massachusetts
Thesis subject: human decision making in complex systems
Advisor: Albert-Laszlo Barabasi

University of Washington *September 2016 - June 2020*
Bachelor of Science Seattle, Washington
Mary Gates Research Scholar, 2018
Major: Informatics - Data Science; Minor: Quantitative Science
Advisor: Jevin West

TECHNICAL STRENGTHS

Computer Languages	Python, R, SQL, d3.JS, Three.JS, React, HTML
Software & Tools	Neo4j, Langchain, Gephi, Google Cloud, AWS, pytorch

EXPERIENCE

Meta Inc. May 2024 - Sep 2024
Research Scientist Intern, Computational Social Science

- Meta-analysis of experiments on Meta platforms with a focus on social network in cross app settings.
- The results helped inform the future launch strategy and guardrail seeting for FB and IG products.
- Key skills: Online experimentation, network analysis, statistical methods, product analytics

Center for Complex Networks Research, Network Science Institute Sept 2020 - May 2025
Graduate Research Associate

Thesis: Quantifying human decision making in complex systems

- I worked on modeling human decision making in complex systems using data and statistical methods.
- The projects include: quantifying the impact career decisions in intellectual domains, human mobility in the metaverse, improving innovation in clinical trials, and studying artistic careers in crypto art.
- These projects were published in high impact interdisciplinary journals like Scientific Reports, Cell iScience, and also received positive recognition from external news sources like Artnet News.
- Key skills: social networks, propensity scores, fixed effects modeling, machine learning, blockchain analytics, success metric identification

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DataLab, Information School September 2017 - August 2020
Undergraduate Research Associate

- Theme: Science of Science. Assisted and led several projects analyzing big scholarly data.
- The projects were funded by the Mary Gates Scholarship and the Bill and Melinda Gates foundation.
- The works were presented at venues like EMNLP, IC2S2, Royal Society Open Science, and also received recognition from news sources like Science and Nature.
- Key skills: Statistical methods, big data analytics, science of science and innovation

Information School, University of Washington Spring 2018 - Spring 2019
Teaching Assistant, INFO 201 - Data Visualization using R.

- Taught over 100 students. I hosted weekly lab sessions on source control and data visualization.
- Key skills: Teaching, collaboration and communication, mentoring

Genpact Inc. June 2017 - August 2017
Data Science Intern

- Enhancing customer care analytics by automatic emotion recognition system by extracting voice features and unsupervised topic clustering of GM Financial chat transcripts using latent semantic analysis.
- Delivered an end to end data pipeline and application as a proof of concept.
- Key skills: Applied inference, customer analytics, natural language processing

PUBLICATIONS

Journal Publications

The role of gender-based segregation in generating elite performance TBA
Kishore Vasan, Louis Shekhtman, Judit Polgar, Larry Han, and Albert-Laszlo Barabasi.

In Prep

Human mobility in the metaverse TBA
Kishore Vasan, Marton Karsai, and Albert-Laszlo Barabasi.

Under review: Nature Communications

The Clinical Trials Puzzle: How network effects limit drug discovery Nov 2023
Kishore Vasan, Deisy Gysi, and Albert-Laszlo Barabasi.

Cell iScience

Quantifying NFT-driven networks in crypto art Feb 2022
Kishore Vasan, Milan Janosov, and Albert-Laszlo Barabasi.

Scientific Reports

The hidden influence of communities in collaborative funding of clinical science Aug 2021
Kishore Vasan and Jevin West.

Royal Society Open Science

Conference Papers

SciSight: Combining faceted navigation and research group detection for COVID-19 exploratory scientific search May 2020
Tom Hope, Jason Portenoy, Kishore Vasan*, Jonathan Borchardt*, Eric Horvitz, Daniel Weld, Marti Hearst, and Jevin West.*

Empirical Methods in Natural Language Processing (EMNLP) 2020 systems track. Online.

* - denotes equal contribution

Is together better? Examining scientific collaboration across multiple authors, departments and institutions. August 2018
Lovenoor Aulck, Kishore Vasan and Jevin West.

Knowledge Discovery and Data mining(KDD): BigScholar workshop 2018. London, UK.

Measuring scientific buzz. March 2019
Kishore Vasan and Jevin West.

Information Schools Conference (iConference) 2019 as a poster. Washington, DC.

SELECTED PROJECTS

TrialQuery: Automating Innovation Search and Retrieval May 2025
Intelligent chatbot for exploring real-time clinical trial innovations.

- Tracking innovation in clinical trials is essential to discover latest trends, formulate new hypotheses, and identify inefficiencies in resource allocation.
- Language models present a powerful opportunity to support this process, but suffer from training cut off, incomplete domain knowledge and hallucinations.
- I introduce *TrialQuery*, an intelligent chatbot powered by a hybrid Graph-based Retrieval-Augmented Generation (RAG) system, helping ground the responses to accurate clinical trials data.
- Delivered an end to end solution - data from clinicaltrials.gov, building knowledge graphs, RAG pipeline implementation, and cloud deployment (AWS and Neo4J). Publicly accessible at trialquery.com;
- Key skills: LLM and Knowledge Graphs, Retrieval Augmented Generation (RAG), AI Agents

In search of food September - December 2020
The breakdown and robustness of food flow in the United States Complex Networks and applications

- Food flow patterns are an essential component of society and serves as a complex system of distribution between producers, consumers, and distributors. Yet, we know little about the impact of food epidemics.
- I find that every county is highly dependent on counties for specific food commodity, indicating a complex web of connections driven by food commodity.
- Finally, I find that the network is fairly robust towards targeted removal of distribution channels primarily due to the local dependence for food supplies.
- Key skills: Network analysis, robustness and criticality, food analytics

MEDIA COVERAGE

Artnet News. Want to Succeed as an NFT Artist? Here Are 5 Things to Know, According to a New Study of One of the Biggest Crypto-Art Platforms. March 2022

Nature News. Artificial-intelligence tools aim to tame the coronavirus literature. June 2020

Science. Scientists are drowning in COVID-19 papers. Can new tools keep them afloat? May 2020

PRESENTATIONS

Saint Louis Chess Conference Saint Louis Chess Club. Sept 2024

Cutting Edge Connections: Healthcare Innovation Northeastern University. Nov 2023

Invited talk on mobility in the metaverse MIT Media Lab. May 2023

Invited talk on artist communities NFT NYC April 2023

Whats the story with NFTs? Cambridge Arts Association panel. May 2022

Research Exposed! Population Health Initiative (PHI) panel March 2020

Undergraduate Research Symposium Presented work on collaborative funding May 2020

SERVICE AND ACHIEVEMENTS

Mary Gates Research Scholarship 2018 - 2019

· A highly selective award given to undergraduates at the University of Washington pursuing research.
· I received this award to develop techniques to map research trends and study funding mechanisms.

Moholy-Nagy University of Art and Design (MOME) Spring 2021

· A part-time contract to advice on emerging trends in the art world using a data driven approach

Undergraduate Admission Committee Spring 2019

· Helped review undergraduate applicants for Informatics, a competitive major.
· Comprehensively reviewed the applicant based on personal statement, intent to major, and grades.

Society of Network Scientists, UW Fall 2019 - Summer 2020
Co-Founder, Vice President

· A campus wide initiative with an aim to promote and encourage research in network science.
· We host weekly reading groups on social networks, panel discussions, and invite distinguished speakers.

Reviewer

· Book on cryptocurrency, Oxford University Press
· Journal article, Electronic Markets
· Journal article, BMC Bioinformatics
· Journal article, Qeios

COURSEWORK

Northeastern University

PHYS 5116 - Complex networks and application I

PHYS 7332 - Graph machine learning

POLS 7334 - Social network analysis

NETS 7341 - Network economics

PHYS 7335 - Dynamical processes in complex networks

BIOT 5120 - Foundations in Biotechnology

PHTH 6800 - Causal Inference in Public Health

University of Washington

QSCI 482 - Statistical inference in applied research I

QSCI 497 - Complex analysis using agent based models

STAT 567 - Statistical analysis of social networks

MATH 324 - Advanced multi-variable calculus I

INFO 371 - Advanced methods in data science

INFO 430 - Advanced database design and management

CSE 373 - Data structures and algorithms