KISHORE VASAN

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OBJECTIVE STATEMENT

A highly motivated and spirited learner who is excited about what life offers. My research builds and utilizes tools from network science, machine learning, and data visualization to broadly study the clinical sciences/ drug development and the emerging field of cryptoeconomics.

EDUCATION

Northeastern University *September 2020 - Present*
PhD in Network Science Boston, Massachussets
Research direction: Clinical science and cryptoeconomics
Advisor: Albert-Laszlo Barabasi

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

TECHNICAL STRENGTHS

Computer Languages Python, R, mySQL, d3.JS, Java, React, HTML
Software & Tools RStudio, Gephi, Cytoscape, networkx, matplotlib, pandas, pytorch

EXPERIENCE

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

Drug target innovation in clinical trials September 2020 - Present

- Clinical trials are a risky endeavor since not all clinical trials are successful, but what are the social patterns governing the collective exploration of new therapeutics for diseases?
- The goal of the project is to understand why pharmaceutical funders select certain protein targets over others for new drugs and formulate strategies that could improve equitable clinical trial exploration.

Discerning artist success in NFTs and Crypto Art April 2021 - December 2021

- NFTs took the world by storm after Beeple sold his famous artwork for over $69 Million. But are all artists equally successful? What is the role of collectors, and fan base in ensuring artist success?
- We identify the important variables that determine success of new artists, demonstrate the presence of taste in the collecting behavior of collectors, and measure the network effects in crypto art.

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

Collective dynamics in co-funding of clinical trials July 2019 - August 2020

- Assessing the scientific impact of different funding strategies in clinical trials. The goal is to untangle the relationship between funding agencies through a co-funding network.
- Funded by the Bill & Melinda Gates Foundation.

Measuring scientific buzz using keywords July 2018 - June 2019

· Compaing the applicability of keywords and abstracts in describing research trends. I discovered that keywords are a powerful resource for identifying hot topics than abstracts.

· Funded through scholarship from the Mary Gates Endowment.

Mapping cross-departmental collaboration at UW September 2017 - August 2018

· How impactful are multi-departmental collaboration at a large scale public university? We discovered an effect of compartmentalization where departments that collaborate together, also cite each other.

· I worked on disambiguation of departmental and institutional affiliations of authors over 60k papers

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

· As a TA for over 100 students, I conducted weekly lab sessions, answered online questions, and graded weekly assignments. The course covers source control and interactive data visualization principles.

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.

· Worked in a team of 4 people and presented a proof of concept to the upper management.

PUBLICATIONS

Journal Publications

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

Scientific Reports

Quantifying drug target exploration in clinical trials TBA
Kishore Vasan, Deisy Gysi, and Albert-Laszlo Barabasi.

In Prep, Target journal: Nature Drug Discovery

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.

Should granting agencies actively engage in co-funding? January 2020
Kishore Vasan, Carl Bergstrom, and Jevin West.

NetSci-X 2020 as a poster. Tokyo, Japan.

PRESENTATIONS

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 undergrads at the University of Washington pursuing research.
· I received this award to develop techniques to map research trends using author keywords.

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. The organization acts as a platform for fellow researchers to interact and collaborate.
· We host weekly reading groups on social networks, panel discussions, and invite distinguished speakers.
· The group also serves an eScience Special Interest Group (SIG) on networks, and a local chapter of *The Society of Young Network Scientists* (SYNS).

Informatics 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.

CLASSROOM PROJECTS

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.

Crawling Wikipedia Graph April 2019 - June 2019
Exploring the edit dynamics of users in Wikipedia *Statistical Analysis of Social Networks*

· Mining large graphs reveals information; temporal network of the same reveal evolution. However, performing novel algorithms on these large graphs can be computationally expensive. We need methods that can provide an un-biased sample that would be representative of the underlying large network.

· In this work, we evaluated different random walks by crawling a large online editing network, Wikipedia.
· Our *findings* include - simple random walk is ineffective when sampling graphs with high tailed distribution, and re-weighted random walk outperforms other methods for graph sampling.

COURSEWORK

Northeastern University

PHYS 5116 - Complex networks and application I

NETS 6116 - Complex networks and application II

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 (In Progress)

BINF 6400 - Genomics in Bioinformatics (In Progress)

University of Washington

QSCI 403 - Introduction to resampling inference

QSCI 482 - Statistical inference in applied research I

QSCI 483 - Statistical inference in applied research II

QSCI 497 - Complex analysis using agent based models

STAT 567 - Statistical analysis of social networks

MATH 308 - Matrix algebra with applications

MATH 309 - Linear analysis

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

CSE 415 - Introduction to artificial intelligence