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Summary

Math PhD. specializing in data science, machine learning, and quantitative analytics. Actively seeking full-time positions. Adept at helping teams leverage the power of data to drive business decision-making and innovation. Excellent team-player, communicator, and strategist. Strong foundation in statistical modeling, machine learning, and applications. Robust teaching and communication.

Education

Ph. D. (& M.S) in Mathematics | University of Illinois at Chicago | **May 2024** | GPA: **4.00/4.00**

- Specialization: *algebraic geometry*; singularities of high-dimensional geometric shapes defined by polynomial equations.
- 3 publications in top journals – 2 x math (Trans. and Proc. AMS), 1 x Public Health (Covid-19 excess death estimate)
- Invited to deliver seminars (complex results to non-expert audiences) at many international universities.
- Answered long-standing questions of experts in the field; Bhatt (Princeton), Ma (Purdue), Shimomoto (Tokyo) etc.
- Papers reviewed, accepted, published, and cited by other academics in record time.

Advanced Training: Deep Learning and ML Specializations, Machine Learning for Finance and Trading, Akuna Capital Options 201

BSc (Hons.) in Math & CS | Chennai Mathematical Institute | June 2018

Data Analytics and Work Experience

Data Science Intern | The Bee Corp | Summer 2022

- **Improved** *hive strength detection of in production clustering algorithms by 30%*. Key **novel** idea was to use **mathematical functions** to **enhance** application of classical clustering algorithms, **neural networks**, and **feature engineering**.
- **Partnered** with **research, data scientists** to design innovative **ML models** and **algorithms** on infrared images.
- Leveraged **AWS** and cloud service providers to analyze and implement machine learning models on **big data**.

'Yearning for Earnings' team | The Erdos Institute | Spring 2024 | [Link to project video](#)

- Used web-scraping and APIs to get **4000** earnings call transcripts of **99 companies** from S&P500 over a **6-year period**.
- Developed **Natural Language Processing** (VADER, BERT) methods to measure sentiment scores of earnings call transcripts.
- Predictively modeled stock movements around earnings **15% more accurately** than baseline using XGBoost, neural nets.

INMAS program | University of Illinois at Urbana-Champaign | Spring 2022

- Program helps PhDs transition to industry, workshops on **Python, Statistical Methods, Algorithm Design, Data Structures**.
 - Capstone project analyzed the **IMDB movies database**. Implemented **logistic regression** to predict **genre** of a movie using **plot summary**, giving an **overall accuracy of 75%** for most genres in a large dataset.
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Teaching and Academic Experience

Lead Instructor + Teaching Assistant | University of Illinois at Chicago | 2018 – 2024

- Led problem-based discussion sessions and instructor for **6 years** and over **1000 students** with positive instructor reviews and student feedback. *Instructor of record* for one summer. Taught **Calculus I, II, Statistics, Differential Equations, Python**.
- Used **Excel** to **track data (attendance, scores)** for 1000 students. **Mentored** junior teaching and learning assistants.

Graduate Research Fellow + PhD Candidate | University of Illinois at Chicago | 2020 – 2024

- Awarded 10,000\$ in research grants. Years of end-to-end experience in organizing nation-wide conferences and seminars.

Senior Counselor | Ross Mathematics Program USA and China | 2015, 17, 18

- Mentored **50** high school students from the **U.S. and China**. Wrote rec letters placing them in top 10 U.S., U.K. colleges.
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Computing Skills: Python, AWS, Git, Statistics, Pytorch, Scikit-learn, Numpy, pandas, SQL, Matplotlib, C++, GCP

Interpersonal Skills: Research, Teamwork, Communication, Leadership, Problem Solving, Teaching, Mentoring