Vijay Shankar Venkataraman

SUMMARY

Physicist turned Data Scientist with an insatiable curiosity, an eye for design, and a passion to build impactful technology products

EXPERIENCE

Senior Data Scientist, Core Data Science, PagerDuty — Oct 2018 - Present

- Winner of Annual Leadership Achievers award for driving innovation at the intersection of product and data science
- Developed research and product development strategy for data science with senior product and engineering leadership
- Designed and collaboratively implemented data-driven recommendations, christened Spotlight, for PagerDuty Analytics
- Researched and prototyped multiple algorithmic approaches – classification, recommender systems, short text clustering, anomaly detection, and optimization – to inform feature development for PagerDuty's products
- Led the design, and partnered cross-functionally to build a schedule generator prototype powered by combinatorial optimization
- Coordinated technical incident responses to restore critical business functions as part of a team of Incident Commanders
- Mentored interns and junior data scientists to achieve career goals by focusing technical and inter-personal skills
- Co-designed and delivered a workshop on music generation using deep learning to more than 80 attendees at internal conference

Senior Data Scientist, Fraud Strategy, Capital One Canada — Nov 2017 - Sep 2018

- Saved over $1M annually by driving the project to revamp Account Takeover defenses with machine learning
- Reduced annual transaction fraud losses for a major retailer by over $5M by collaboratively deploying a new predictive model
- Developed analysis to drive launch strategy for multiple new application fraud defenses which reduced monthly losses from over $200k to under $60k. Strategies included ML model policy updates, graph database based application linking, and photo-id verification for risky applications.

Senior Data Scientist, Card Compliance, Capital One Canada — Jul 2016 - Oct 2017

- Advised Chief Compliance Officer to develop strategy around leveraging data to identify and mitigate compliance risk
- Led the development of testing strategies, automation tools, and dashboards to monitor compliance issues and process breakdowns

Ph.D Researcher and Teaching Assistant, Dept. of Physics, University of Toronto — Sep 2009 - June 2016

- Predicted electronic and magnetic properties of materials using computer simulations to find energetically optimal states
- Published in 5 peer-reviewed publications with 1000+ citations; presented research results at conferences
- Designed and delivered tutorial and laboratory sessions to small groups (20-30) of undergraduate students

ADDITIONAL EXPERIENCE

Mentor, Jumpstart Refugee Talent Canada — July 2020 - Present

- Coaching refugees to explore career paths within data analytics and to navigate the Canadian job market to find fulfilling positions

Mentor, Mentorship Program, University of Toronto — May 2014 - Aug 2019

- Mentoring new international and graduating physics students on moving to a new city and exploring new career paths

Mathematics Educator, Fields Institute Math Circles — Sep 2014 - June 2017

- Designed problem sets, puzzles, and lessons for school students to cultivate an appreciation for mathematical problem solving

Maker Educator, Robotics Summer Camp, STEAM Labs — Jul 2016

- Mentored student-teams to use laser-cutters, Arduino, and 3D printers in a week-long quest to build an internet-controlled robot

SKILLS

- Machine Learning and Deep Learning, Algorithm Design and Analysis, Techniques and tools of Mathematical Physics: Linear Algebra, Calculus, Probability and Statistics, Optimization, Differential Equations
- Experienced at creating visualizations and design prototypes. Attended Edward Tufte's 1-day course on data visualization
- Tools – Python (pandas, numpy, scikit-learn, matplotlib), SQL, Apache Spark, Unix, Git, AWS, C++, Mathematica

EDUCATION

Ph.D Physics, University of Toronto — Sep 2009 - Jun 2016

- NSERC HEATER Fellowship, University of Toronto Fellowship
- Certificate in Scientific and High Performance Computing from the SciNet supercomputing centre.

B.Tech Engineering Physics, Indian Institute of Technology (IIT), Madras, India — Aug 2004 - Jul 2008

- Elected Academic Council representative for Engineering Physics

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