

NIKHIL MALIK

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EDUCATION

Carnegie Mellon University Ph.D. in Business Technologies (Minor in Machine Learning)	<i>Expected Oct 2020</i>
Carnegie Mellon University M.S. in Industrial Administration	<i>May 2018</i>
Indian Institute of Technology, Delhi B.Tech. in Electrical Engineering	<i>May 2011</i>

SELECTED GRADUATE COURSEWORK

Analytical Models in Marketing, Structural Models in Marketing, Estimating Structural Models, Microeconomics, Econometrics, Game Theory, Economics of Emerging Technologies, Econometrics, Machine Learning, Deep Learning, Deep Reinforcement Learning, Text mining with ML, Cryptography.

RESEARCH INTERESTS

Topics: Behavioral Biases, Algorithmic Biases, Economics of AI, Marketing and Financial Technology.
Methodology: Analytical Models, Structural Models, Machine Learning.

DISSERTATION

Title: “Marketing implications of Machine Learning and Blockchain Technologies”.
Committee: Prof Kannan Srinivasan, Prof Param Vir Singh, Prof Nitin Mehta, Prof Bryan Routledge.
Chapter 1 - When does beauty pay? An ML based measurement of beauty bias.
Chapter 2 - Why Bitcoin will fail to scale? Economics of collusion on Blockchain.
Chapter 3 - Can ML amplify pricing errors in housing market? Economics of ML feedback loops.

PUBLICATIONS

Malik N. and Singh P.V. 2019. “Deep Learning in Computer Vision - Methods, Interpretation, Causation and Fairness”. Operations Research & Management Science in the Age of Analytics. INFORMS, 2019. 73-100.

WORKING PAPERS

Malik N., Singh P.V., Srinivasan K. and Lee D. 2017. “A dynamic analysis of Beauty Premium”. Under 2nd round of review at Marketing Science. (ssrn abstractid=3208162)

- Conference on Information Systems and Technology, Houston, TX, 2017. (Best Student Paper)
- Marketing Science Conference, Philadelphia, PA, 2018.
- Marketing Science Conference, Rome, Italy, 2019.

Malik N., Aseri M., Singh P.V. and Srinivasan K. "Why Bitcoin will fail to scale?". Preparing for 3rd round of review at Management Science. (ssrn abstractid=3323529)

- Workshop on Information Systems and Economics (WISE), San Francisco, CA, 2018.
- Workshop on Economics of Information Security (WIES), Cambridge, MA, 2019.
- Marketing Science Conference, Rome, Italy, 2019.
- Production and Operations Management Society (POMS) Conference, Minneapolis, MN, 2020.

Malik N., Aseri M., Singh P.V. and Srinivasan K. "Bitcoin disruption in payments - Winners and Losers".

- Conference on Information Systems and Technology, Phoenix, AZ, 2018. (Best Paper nomination)
- Marketing Science Conference, Rome, Italy, 2019.

WORK IN PROGRESS

Malik N. "Does Machine Learning amplify pricing errors in housing market? Economics of ML feedback loops".

Rastogi P. and Malik N. "Bayesian Finger: A Variational Bayes EM method for customer feedback attribution in web scale Data Analytics stack".

Malik N. "Role of naive agents in P2P Initial Coin Offering (ICO) markets".

- Marketing Science Conference, Rome, Italy, 2019.

Malik N., Khan U. and Singh, P.V. "Can Banks survive the next financial crisis? An adversarial deep learning model for bank stress testing".

OTHER INVITED TALKS

Malik N. "Economics of Collusion on Bitcoin". Job Talk at Stern School of Business, NYU, Nov 2019.

Malik N. and Singh P.V. "Deep Learning in Computer Vision - Methods, Interpretation, Causation and Fairness". INFORMS Annual Meeting, Seattle, WA, 2019.

Malik N. and Chaplot D. "Tutorial on Deep Reinforcement Learning". CMU Summer Workshop on Machine Learning, Pittsburgh, PA, 2019.

AD-HOC REVIEWER

Management Science, Information System Research (ISR), Conference on Information Systems and Technology (CIST), International Conference in Information Systems (ICIS)

TEACHING EXPERIENCE

Instructor

FinTech (Undergraduate), Tepper School of Business, Fall 2018.

Tutorial on Deep RL. CMU Summer Workshop on Machine Learning, Pittsburgh, PA, 2019.

Tutorial on Deep Learning in Computer Vision. INFORMS Annual Meeting, Seattle, WA, 2019.

Teaching Assistant (Tepper School of Business, CMU)

FinTech (MBA) by Prof Param Vir Singh and Prof Bryan Routledge, Spring 2018.

Modern Data Management (Undergraduate) by Prof Zachary Lipton Chase, Spring 2018.

Digital Marketing and Social Media Strategy (MBA) by Prof Param Vir Singh, Fall 2017.

Entrepreneurial Alternatives (MBA) by Prof Leonard Caric, Fall 2016.

WORK EXPERIENCE

Adobe Inc

May 2017 - Aug 2017

Data Science Intern

San Jose, USA

ML Models for consumer apparel purchase decision based on product visual cues.

Recommendation of optimal brand specific product visuals to maximize sales.

Goldman Sachs

June 2011 - Feb 2016

Quantitative Strategist

Bangalore, India

Credit and funding risk models for open derivative positions.

ML based detection of trader negligence and regulatory non-compliance.

Development of in-house Data Lake and Machine Learning platform.

Project leadership, hiring and mentoring of multiple Data Science teams across India, Singapore and UK.

AWARDS

AMA-Sheth Foundation Doctoral Consortium Fellow, 2020

Dipankar and Sharmila Chakravarti Doctoral Fellowship Award 2020.

PNC Presidential Fellowship 2019-20.

Henry J. Gailliot Presidential Fellowship, CMU, 2019-20.

Ripple Foundation Fellow, 2019-20.

ISMS Doctoral Consortium Fellow, 2019.

Litzenberger Family Fund Award, CMU 2018.

Best Conference Paper nomination, CIST INFORMS 2018.

Best Student Paper, CIST INFORMS 2017.

William Larimer Mellon Fellowship, CMU 2016.

Best Electrical Engineering Undergraduate Thesis, IIT Delhi 2011.