Meghanath Macha

EMAIL: meghanath.macha@gmail.com   WEBSITE: https://mmacha.github.io/
SCHOLAR: Google Scholar , Justia Patents, Git   PHONE: +14124820350

EDUCATION

AUGUST 2016 - 2021	Doctor of Philosophy in INFORMATION SYSTEMS AND MANAGEMENT Carnegie Mellon University, Pittsburgh.
COURSES	Machine Learning, Statistics, Convex Optimization, Data mining, Econometrics
AUGUST 2009 - 2014	Masters and Bachelors of Science in MATHEMATICS AND COMPUTING Indian Insititute of Technology, Kharagpur , India INSTITUTE SILVER MEDALIST

PROFESSIONAL EXPERIENCE

MARCH 2021 - PRESENT	MACHINE LEARNING ENGINEER, Experience Cloud, Adobe, San Jose. Actively developing and exploring machine learning models for real-time fraud detection and scene text extraction.
MAY 2019 - AUGUST 2019	DATA SCIENCE INTERN, Data Science Lab, Adobe, San Jose. Developed a semi-supervised learning algorithm to jointly identify and summarize consumer marketing segments. Designed a sequential deep learner to identify critical events in online web sessions. (2 patents filed and 1 paper published at WWW.)
MAY 2018 - AUGUST 2018	APPLIED SCIENTIST INTERN, AWS AI Labs, Amazon, Seattle. Developed a novel active learning regime to improve the labeling phase of the record linkage problem, resulting in improved performance gains and reduction in labeling times on several internal data sets.
MAY 2017 - AUGUST 2017	DATA SCIENCE INTERN, Data Science Lab, Adobe, San Jose. Designed a novel contextual outlier detection algorithm with applications to click-fraud. This involved identifying fraudulent publishers and consumers in real time bidding. (1 paper published in ECML PKDD.)
JUNE 2014 - JULY 2016	MEMBER OF RESEARCH STAFF, Digital Marketing Research, Adobe, India. Developed supervised & unsupervised techniques to quantify, evaluate efficiency of marketing campaigns. Designed several predictive, descriptive tools for marketers to efficiently target consumers. (3 papers published at WISE, KDD and 6 patents filed.)

TECHNICAL SKILLS

PROGRAMMING LANGUAGES	PySpark, Python , R , Scala, C++ , Matlab
ML FRAMEWORKS	Tensorflow , PyTorch
APP FRAMEWORKS	RShiny, Dash, Flask
COURSE PROJECTS	Detecting Fraudulent Reviews (Machine Learning) Portrayal of a fraudster (Data Mining) Recommending Bundles in Consumer-Product Networks (Convex Optimization)

RESEARCH PUBLICATIONS AND PATENTS

WORKING PAPERS:

1. **Meghanath Macha**, Beibei Li and Natasha Zhang Foutz, "Moving Health Forward: Understanding Consumer Healthcare Risk from Location Trajectories". (*paper under preparation, accepted at WITS 2021*)

2. Natasha Zhang Foutz, Baohong Sun, **Meghanath Macha**."Consumer Mobility Data and Research Opportunities on Location-Smart Retailing." (*paper under preparation, presented at Marketing Science Conference 2020*)

3. Anindya Ghose[1], Beibei Li, **Meghanath Macha**, Chenshuo Sun, and Natasha Zhang Foutz, "Trading Privacy for the Greater Social Good: How Did America React During COVID-19?". (*Management Science third round*)

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[1]Equal author contributions.

4. **Meghanath Macha**, Beibei Li, Natasha Zhang Foutz, and Anindya Ghose, "Perils of Location Tracking? Personalized and Interpretable Privacy Preservation in Consumer Trajectories". *(working paper, ISR third round, WITS 2019 Best Paper, presented at ICIS 2019, Marketing Science Conference 2020, NYU/ABA NextGen Antitrust Conference 2020)*

JOURNAL PUBLICATIONS:

1. **Meghanath Macha**, and Leman Akoglu, "X-PACS: Explaining Anomalies by Characterizing Subspaces." Data Mining and Knowledge Discovery Special Issue, 2018. (website)

CONFERENCE PUBLICATIONS:

1. **Meghanath Macha**, Beibei Li and Natasha Zhang Foutz, "Geo-Targeting, Privacy, and the Rise of Consumer Location Trajectories" Proceedings of ICIS 2019 (paper)

2. **Meghanath Macha**, Deepak Pai and Leman Akoglu, "ConOut : Contextual Outlier Detection : An Application to Ad Fraud" Proceedings of ECML PKDD 2018 (website)

3. **Meghanath Macha**, Shiv Kumar Saini, and Ritwik Sinha, "Non-parametric Approach to the Multi-channel Attribution Problem" International Conference on Web Information Systems Engineering, 2015. (paper)

4. Pai, Deepak, Abhijit Sharang, **Meghanath Macha**, and Shradha Agrawal, "Modelling Visit Similarity Using Click-stream Data: A Supervised Approach." International Conference on Web Information Systems Engineering, 2014. (paper)

WORKSHOP PAPERS:

1. **Meghanath Macha**, Sriram Ravindran, Deepak Pai, Anish Narang and Vijay Srivastava, "Multiple Attribute Fairness: Application to Fraud Detection" Ethical Artificial Intelligence: Methods and Applications, KDD 2022 (paper)

2. Debraj Basu, **Meghanath Macha** and Deepak Pai, "Revisiting How to Focus: Triplet Attention for Joint Entity and Relation Extraction" Document Intelligence Workshop, KDD 2022 (paper)

3. **Meghanath Macha**, Beibei Li and Natasha Zhang Foutz, "Learning Individual Social Determinants of Health from Location Big Data" WITS, 2021 (paper)

4. **Meghanath Macha**, Shankar Venkitachalam and Deepak Pai, "CrEOS: Identifying Critical Events in Online Sessions" WWW'20 Companion: Companion Proceedings of the Web Conference, 2020 (paper)

5. **Meghanath Macha**, Beibei Li, Natasha Zhang Foutz and Anindya Ghose "Perils of Location Tracking? Personalized and Interpretable Privacy Preservation in Consumer Trajectories" *Best Paper Award* WITS, 2019. (paper)

6. Atanu Sinha, **Meghanath Macha** , Pranav Manirekar, Sopan Khosla, Avani Samdhariya and Navjot Singh, "Anti-Ad Blocking Strategy: Measuring its True Impact". Proceedings of the AdKDD and TargetAd Workshop, 2017. (paper)

PATENTS:

1. **Meghanath Macha**, Sriram Ravindran, Anish Narang, Vijay Srivastava, Deepak Pai. "A practical approach to ensure fairness in machine learning"

2. **Meghanath Macha**, Deepak Pai. "User Segment Generation and Summarization"

3. **Meghanath Macha**, Shankar Venkitachalam and Deepak Pai, "A method to identify stages in the path to online e-commerce"

4. **Meghanath Macha**, Shiv Kumar Saini, Ritwik Sinha, "Value Function-based Estimation of Multi-channel Attributions"

5. **Meghanath Macha**, Ritesh Noothigattu, Shivam Garg, Abhishek Kandoi, Dr. Atanu Sinha, "Buying Stage Determination in a Digital Medium Environment."

6. **Meghanath Macha**, Ritwik Sinha, Shiv Kumar Saini, "Simulation-based Evaluation of a Marketing Channel Attribution Model."

7. Deepak Pai, Abhijit Sharang, **Meghanath Macha**, Shradha Agrawal, "Visitor Session Classification Based on Clickstreams"

8. Atanu Sinha, Sopan Khosla, Pranav Ravindra Maneriker, **Meghanath Macha**, Avani Samdariya and Navjot Singh, "A Method to Quantify True Effectiveness of Site-Wide Actions Using a Control Group Mechanism."

9. **Meghanath Macha**, Moumita Sinha, Kokil Jaidka, "Conversational Index for Email Marketing Campaigns."

Teaching

Teaching Assistant, Geographic Information Systems Summer 2020, (Kristen Kurland, CMU).
Teaching Assistant, Data Structures and Algorithms course Spring & Fall 2019, Fall 2018, (Michael Mccarthy, CMU).
Teaching Assistant, Decision Making under Uncertainty & Fall 2019, Fall 2018, (David Choi, Alexandre Jacquillat and Jonathan Caulkins, CMU).
Teaching Assistant, Advanced Business Analytics & Spring 2019, Spring 2020, (Beibei Li, CMU).

Awards

1. **Best Paper Award** Workshop on Information Technologies and Systems (WITS) 2019.

2. **Suresh Konda Award** for best first research paper at Heinz, CMU.

3. **PwC Presidential Fellowship** for outstanding research and academic performance at CMU.

4. **Institute Silver Medal** for holding the highest GPA in my department during 2009-14.

5. **Professor K.L. Chopra award** for the best demonstrable Master's thesis at IIT Kharagpur.