

Meghanath Macha

EMAIL: mmacha@cmu.edu

SCHOLAR: [Google Scholar](#) , [Justia Patents](#), [Git](#)

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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 Institute of Technology, Kharagpur , India
INSTITUTE SILVER MEDALIST

PROFESSIONAL EXPERIENCE

- 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 regime of active learning to improve the labelling phase of the record linkage problem. The technique was productized internally.
- 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 Python , R , Scala, C++ , Matlab
- ML FRAMEWORKS Tensorflow , PyTorch, Keras, Caret, Super learner
- 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 and patent draft under preparation, presented at [SCECR 2020](#)*)
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 Ghose¹, Beibei Li, **Meghanath Macha**, Chenshuo Sun, and Natasha Zhang Foutz, "Trading Privacy for the Greater Social Good: How Did America React During COVID-19?". (*Under review*)
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, under review, [WITS 2019 Best Paper](#), presented at [ICIS 2019](#), [Marketing Science](#) Conference 2020, [NYU/ABA NextGen Antitrust Conference 2020](#)*)

¹Equal author contributions.

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**, Shankar Venkitachalam and Deepak Pai, "CrEOS: Identifying Critical Events in Online Sessions" WWW'20 Companion: Companion Proceedings of the Web Conference, 2020 ([paper](#))
2. **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](#))
3. 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**, Deepak Pai. "User Segment Generation and Summarization"
2. **Meghanath Macha**, Shankar Venkitachalam and Deepak Pai, "A method to identify stages in the path to online e-commerce"
3. **Meghanath Macha**, Shiv Kumar Saini, Ritwik Sinha, "Value Function-based Estimation of Multi-channel Attributions"
4. **Meghanath Macha**, Ritesh Noothigattu, Shivam Garg, Abhishek Kandoi, Dr. Atanu Sinha, "Buying Stage Determination in a Digital Medium Environment."
5. **Meghanath Macha**, Ritwik Sinha, Shiv Kumar Saini, "Simulation-based Evaluation of a Marketing Channel Attribution Model."
6. Deepak Pai, Abhijit Sharang, **Meghanath Macha**, Shradha Agrawal, "Visitor Session Classification Based on Clickstreams"
7. Atanu Sinha, Sopan Khosla, Pranav Ravindra Maneriker, **Meghanath Macha**, Avani Samdhariya and Navjot Singh, "A Method to Quantify True Effectiveness of Site-Wide Actions Using a Control Group Mechanism."
8. **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.