Meghanath Macha

Info

EMAIL: mmacha@cmu.edu

SCHOLAR: Google Scholar , Justia Patents, Git

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Bio

I am a 4th year Ph.D. student majoring in Information Systems at Carnegie Mellon University. I am fortunate to be advised by Prof. Beibei Li.

I develop interpretable machine learning and data mining techniques. Using these methods, I currently study the pervasive consumer location data. Specifically, I aim to understand and mitigate privacy concerns, mine lifestyle choices and their long term health impact in consumer location data. I also develop models to explain and detect anomalies and outliers.

Before joining CMU, I spent two years as a researcher with Adobe Digital Marketing Research where I developed machine learning techniques for marketing attribution, click-stream purchase prediction. During my Ph.D., I spent two summers at Adobe working on click fraud detection, identfying critical events in consumer purchase funnel and a summer at Amazon developing active learning techniques for record linkage.

Education

AUGUST 2016 - PRESENT	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

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 project at IIT Kharagpur.

6. **Best poster award** for the Machine Learning course project titled 'Detecting Fraudulent Reviews'.

Professional Experience

MAY 2019 - AUGUST 2019	DATA SCIENCE INTERN, Data Science Lab, Adobe, San Jose.
	Worked on semi-supervised identification and summarization of marketing segments and critical event detection in online web sessions.
	Two patents and papers under preparation to be filed and submitted.
MAY 2018 - AUGUST 2018	APPLIED SCIENTIST INTERN, AWS AI Labs, Amazon, Seattle.
	Worked on developing active learning techniques for the record linkage problem.
MAY 2017 - AUGUST 2017	DATA SCIENCE INTERN, Data Science Lab, Adobe, San Jose.
	Worked on click-fraud detection which involved identifying fraudulent publishers and users.
	Paper published in ECML PKDD 2018.
JUNE 2014 - JULY 2016	MEMBER OF RESEARCH STAFF, Digital Marketing Research, Adobe, India.
	Developed predictive, descriptive tools for marketers to efficiently target and evaluate marketing campaigns. Published three conference papers and six patents.

RESEARCH PUBLICATIONS AND PATENTS

JOURNAL PUBLICATIONS:

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

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

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

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 2017 AdKDD and TargetAd Workshop.

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

5. 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. Springer, 2014.

WORKSHOP PAPERS:

1. **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

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 Samdariya 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."

PRESENTATIONS

1. **Geo-Targeting, Privacy, and the Rise of Consumer Location Trajectories**, WITS 2019, Munich, Germany.

2. **Perils of Location Tracking? Personalized and Interpretable Privacy Preservation in Consumer Trajectories**, WITS 2019, Munich, Germany and Heinz School of Information Systems and Public Policy, CMU.

3. **Explaining Anomalies by Characterizing Subspaces**, ECML PKDD 2018, Dublin, Ireland and Heinz School of Information Systems and Public Policy, CMU..

4. **Contextual Outlier Detection : An Application to Ad Fraud**, ECML PKDD 2018, Dublin, Ireland.

5. **Modelling Visit Similarity Using Click-stream Data: A Supervised Approach**, 15th International Conference on Web Information and System Engineering (*WISE*) 2014, Thessaloniki, Greece.

6. **Learning Online Session Similarities**, Adobe Tech Summit, San Francisco, 2015

7. **From Data to Insights**, Adobe Marketing Summit, Salt Lake City, 2015.

Teaching

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).
Internship Mentor, Digital Marketing Research, Adobe, India.

Skills and Coursework

Programming Languages	Python , R , C++ , Matlab
ML frameworks	Tensorflow , Keras , Caret
Course projects	Detecting Fraudulent Reviews (Machine Learning) Portrayal of a fraudster (Data Mining) Recommending Bundles in Consumer-Product Networks (Convex Optimization)