

Sandeep Gangarapu

PH.D STUDENT, INFORMATION AND DECISION SCIENCES, UNIVERSITY OF MINNESOTA

Minneapolis, MN

☎ (+1) 612-402-1266 | ✉ ganga020@umn.edu | 🏠 www.sandeepgangarapu.com | 🌐 sandeepgangarapu

Summary

I am a fourth-year doctoral student studying Information and Decision Sciences at Carlson School of Management. I develop methods and frameworks that help decision-makers better conduct A/B testing experiments and also optimally target subjects and treatments in a budget constrained, heterogeneous treatment effect environment. These questions fall in the line of literature related to Heterogeneous Treatment effects and Multi-Arm Bandits. I use a mix of Statistics, Machine Learning and Causal Inference to solve the above problems.

Education

Ph.D in Information and Decision Sciences

UNIVERSITY OF MINNESOTA, MINNEAPOLIS, USA

2016 - Present

Bachelors' and Masters' in Aerospace Engineering

INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR, INDIA

2008 -2013

Work Experience

Google Inc., Trust and Safety, Google Search Anti-Abuse

DATA SCIENTIST

Sep. 2013 - Jul. 2016

- Part of global Search Quality team that prevents abuse on Google Search results using a combination of manual and automated solutions.
- Worked as an Automation Specialist and collaborated with multiple spam task forces and created end-to-end automated spam filters. These automated solutions together impacted over 200M search queries in 2015 alone.

MuSigma Inc.

DATA SCIENTIST

Jun. 2013 - Sep. 2013

- Worked for one of the largest retailers in US on a project to optimize labor allocation across 3500 stores.

Research Papers

A Prescriptive Analytics Framework for Optimal Policy Deployment using Heterogeneous Treatment Effects

In Review (link)

EDWARD MCFOWLAND, SANDEEP GANGARAPU, RAVI BAPNA

The key contribution in this work is to develop and operationalize a framework to exploit both within-and between-treatment arm heterogeneity in the utility response function, in order to derive benefits from future (optimized) prescriptions.

Multi-Armed Bandits with Inference Considerations

Working Paper (link)

SANDEEP GANGARAPU, EDWARD MCFOWLAND, RAVI BAPNA

While the main aim of Multi-Armed bandit methods is to minimize regret, they fall short on the aspect of inference of treatment effects. This paper fills this gap by providing a new allocation procedure that optimizes both regret and inference.

Skills

Expert Python, R, SQL

Working Experience STATA, MATLAB, C

Other Tools LaTeX, BigQuery, HTML, Tableau

Relevant Course Work

Graduate Level Theory of Statistics, Machine Learning, Artificial Intelligence, Linear Models, Econometrics, Policy Analysis, Micro Economics, PhD Seminars in Systems Development, Economics of Information systems, Behavioral Decision Theory

Honors & Awards

FELLOWSHIPS

- 2016-19 **PHD Summer Research Fellowship**, University of Minnesota
- 2019 **PHD Travel Fellowship**, University of Minnesota
- 2008-12 **MCM Full Tuition Fee Waiver**, Indian Institute of Technology

MENTORSHIP

- 2018-19 **PhD Student Teaching Award**, Carlson School of Management
- 2015 **'Team Guru' Award**, Team nominated award for outstanding mentorship, Google Inc

OTHERS

- 2018-19 **6 Peer bonuses and 3 Kudos**, for excelling in different areas of work, Google Inc
- 2015 **'Mars Orbiter Award'**, recognizing outstanding innovation and impact, Google Inc

Conference Presentations

Winter Conference On Business Analytics

Snowbird, Utah

A PRESCRIPTIVE ANALYTICS FRAMEWORK FOR OPTIMAL POLICY DEPLOYMENT USING
HETEROGENEOUS TREATMENT EFFECTS

Mar. 2019

Workshop on Information Systems and Economics

San Francisco

A PRESCRIPTIVE ANALYTICS FRAMEWORK FOR OPTIMAL POLICY DEPLOYMENT USING
HETEROGENEOUS TREATMENT EFFECTS

Dec. 2018

Invited Talks

Undergraduate Business Analytics Club

Minneapolis

R BOOTCAMP

Sep. 2019

Medical Industry Leadership Institute

Minneapolis

A PRESCRIPTIVE ANALYTICS FRAMEWORK FOR OPTIMAL POLICY DEPLOYMENT USING
HETEROGENEOUS TREATMENT EFFECTS

Oct. 2018

PHD Brown Bag

Minneapolis

CROSS SECTIONAL AND PANEL DATA ANALYSIS

Oct. 2018

References

- Advisor** Ravi Bapna, Associate Dean, Professor, Carlson School of Management, rbapna@umn.edu
- Co-Advisor** Edward McFowland III, Assistant Professor, Carlson School of Management, mcfowland@umn.edu
- PhD Program Coordinator** Yuquing Ren, Associate Professor, Carlson School of Management, chingren@umn.edu