

ADITYA SHETTY

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SUMMARY

Quantitative model developer with industrial and academic experience in building analytical and statistical models, from conception to deployment.

EDUCATION

Simon Business School, University of Rochester *June 2017-Present*

Ph.D. in Operations Management (*Expected May 2022*)

Dissertation title: *“Three Essays on the Optimization and Fairness of Service Operations”*

Simon Business School, University of Rochester *June 2017 - Dec 2018*

M.S. Management Science

Birla Institute of Technology and Science, India *August 2006 - May 2011*

B.E. Computer Science

INDUSTRY EXPERIENCE

Bravo Lucy *November 2015 - June 2017*

Quantitative Model Developer *Hyderabad, IN*

- Created a model of penalty shootouts that evaluates the impact of alternative ordering of shots, using real data from traditional ordering. This work was recognized by FIFA as an input in its decision to experiment with alternative shootout orders.
- Developed a Risk Management service for a sports betting platform that lets users create their own bets, specifically allowing for high risk, low probability bets. Used constrained Monte Carlo simulation to find the portfolio's exposure including those from extremely rare game outcomes.

Snapdeal *December 2013 - October 2014*

Lead Engineer, Multimedia Research Group *Bengaluru, IN*

- Developed a “visual” search engine (search by color/pattern) for a product catalog. This was specially useful for fashion goods where customers have strong preferences over colors and patterns but the large number of SKU's make it labor intensive to track meta data for such products.
- Built a platform to store, retrieve and run analytics on user generated content. The main challenge here was to ensure scalability of the system, requiring the use of a distributed database (Cassandra) and caching layer (Aerospike).

Bravo Lucy *August 2011 - November 2013*

Quantitative Model Developer *Hyderabad, IN*

- Designed and implemented models for real time predictions of soccer matches and tournaments. Optimized the system to have a sub 1 second response time to incoming live feed. The model was a combination of non stationary Markov Chains, ranking engines and simulators.
- Built a general framework for models that predict the outcomes of matches from over 20 different tournaments of “set-based” and “time-based” sports. The framework used the Interpreter design pattern to create a unified grammar of all these sports and tournaments.

PEER REVIEWED PUBLICATIONS

- “Ordering sequential competitions to reduce order relevance: Soccer penalty shootouts”, with Nils Rudi and Marcelo Olivares (*Published* in Plos one, 15(12), e0243786 , [\[Link\]](#)).
- “On designing a socially optimal expedited service and its impact on individual welfare”, with Ricky Roet-Green (*Accepted* at Manufacturing & Service Operations Management, [\[Link\]](#))
- “Intra-day dynamic rescheduling under patient no-shows”, with Harry Groenevelt and Vera Tilson (*Accepted* at Hawaii International Conference on System Sciences, [\[Link\]](#))

WORK IN PROGRESS

- “Using discrete event simulation to optimize patient flow in short stay surgical wards”, with Harry Groenevelt and Vera Tilson (collaboration with University of Rochester Medical Center)
- “A control system for joint replenishment under correlated demand”, with Harry Groenevelt

INVITED TALKS AND CONFERENCE PRESENTATIONS

“On designing a socially optimal expedited service and its impact on individual welfare”:

- MSOM 2019, Singapore
- CanQueue 2019, University of Toronto
- INFORMS 2019, Seattle
- NYU Stern School of Business, 2020 (Presented by co-author)
- MIT Sloan School of Management, 2021 (Presented by co-author)

“Intra-day dynamic rescheduling under patient no-shows”:

- MSOM 2021, Virtual
- INFORMS 2021, Los Angeles (Planned)
- HICSS 2022, Virtual (Planned)

TECHNICAL KNOWLEDGE

Programming Languages	Python, Java, R, C/C++
Tools	Arena, MySQL, Cassandra, Elasticsearch, Aerospike, Git
Development Processes	Agile software development, Test Driven Development

TEACHING EXPERIENCE

University of Rochester	AY 2020, 2021
<i>Teaching Assistant, Adv. Business Modeling and Analysis</i>	<i>Evaluation: 4.7/5</i>

- Held weekly recitation sessions for Masters students.
- Organized assignment of work between two other TA’s.

SELECTED COURSEWORK

Data Structures and Algorithms, Probability Theory & Stochastic Processes, Non-linear optimization, Game Theory, Causal Inference, Artificial Intelligence

EXTRA/CO CURRICULUR ACTIVITIES

- Completed online courses on topics of interest: Machine Learning (Stanford University), Linear Algebra (MIT), A brief history of humankind (Hebrew University of Jerusalem)

- Competitive cycling: Won two medals at the state level (Andhra Pradesh) and placed 7th at the 2013 National Championships.