Emaad Ahmed Manzoor

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Education

Carnegie Mellon University, PA, USA **2016 –**
Ph.D., Information Systems (H. John Heinz III College). Advisor: Dokyun Lee.

Stony Brook University, NY, USA **2015 – 2016**[1]
Ph.D., Computer Science. Advisor: Leman Akoglu.

King Abdullah University of Science and Technology, Saudi Arabia **2013 – 2015**
M.S., Computer Science. Advisor: Panos Kalnis.
Thesis: Scheduling Broadcasts in a Network of Timelines.

Birla Institute of Technology and Science - Pilani, India **2008 – 2012**
Bachelor of Engineering (Honors), Computer Science.

Research

1. *Inferring Semantic Hierarchies from Human Curation Behavior.*
   Emaad Manzoor, Dhananjay Shrouty, Rui Li, Jure Leskovec.
   To be submitted, 2018.

2. *Learning Interpretable Concept Representations for Prescriptive Policy Exploration.*
   Dokyun Lee*, Emaad Manzoor*, Zhaoqi Cheng* (*equal contribution).
   To be submitted, 2018.

3. xStream*: Outlier Detection in Feature-Evolving Data Streams.*
   Emaad Manzoor, Hemank Lamba, Leman Akoglu.
   ACM SIGKDD 2018 (research track with short presentation, top 181/983 = 18.41%).
   `https://cmuxstream.github.io/`

4. RUSH! *Targeted Time-limited Coupons via Purchase Forecasts.*
   Emaad Manzoor, Leman Akoglu.
   ACM SIGKDD 2017 (applied data science track with poster, top 85/396 = 21.47%).
   `https://github.com/emaadmanzoor/rush/`

5. *Fast Memory-Efficient Anomaly Detection in Streaming Heterogenous Graphs.*
   Emaad Manzoor, Sadegh M. Milajerdi, Leman Akoglu.
   ACM SIGKDD 2016 (research track with long presentation, top 70/784 = 8.93%).
   `https://sbustreamspot.github.io/`

6. *Scheduling Broadcasts in a Network of Timelines.*
   Emaad Ahmed Manzoor, Haewoon Kwak, Panos Kalnis.
   Unpublished manuscript (`https://arxiv.org/abs/1610.06052`), 2015.
   Patent filed in February, 2015 (`https://patents.google.com/patent/WO2016132332A1`).

Awards

- CMU GSA/Provost Office Conference Funding Award ($1,000). **2017, 2018**
- ACM SIGKDD Student Travel Award ($3,050). **2016, 2017, 2018**
- Institute of Advanced Computational Science Young Writer's Award ($500). **2016**
- Stony Brook University Special CS Department Chair Fellowship ($8,000). **2015**
- Worldwide Top 100 (of 1720 teams), IEEE Xtreme 8.0 Programming Competition. **2015**
- Best Mashery Hack & Travel Grant, PennApps X, Philadelphia ($500). **2014**
- Erasmus Mundus Category A Masters Scholarship (EUR 40,000)[2]. **2013**

[1] Incomplete, transferred.
[2] Declined. Awarded to 4 international applicants.

Professional Experience

Pinterest Labs, San Francisco. Research Intern. **Summer 2018**
Research on semantic hierarchies and graph embeddings. Advised by Rui Li and Jure Leskovec.

Max Planck Institute for Software Systems, Kaiserslautern. Research Intern. **Summer 2017**
Research on stochastic optimal control. Advised by Manuel Gomez-Rodriguez.

Quantitative Engineering Design, San Francisco (remote). Research Intern. **Summer 2015**
Research and development on streaming machine-learning. Advised by William Wu and Jiehua Chen.

Oregon State University, Corvallis (remote). Google Summer of Code Intern. **Summer 2014**
Designed and developed a REST service to enable remote datacenter machine administration.

Yahoo!, Bangalore. Software Engineer. **Jul 2012 – Aug 2013**
Developed a distributed streaming NLP system for trending-topic detection (Storm, Kafka, HBase).

Tachyon Technologies, Bangalore. Research Intern. **Summer 2012**
Designed algorithms for automatic comic book digitization. Advised by Ram Prakash Hanumanthappa.

Yahoo!, Bangalore. Software Engineer Intern. **Fall 2011**
Designed and developed a configuration system for trending-topic internationalization.

University of Massachusetts, Lowell (remote). Summer of Code Intern. **Summer 2011**
Designed and developed a Debian package building and maintenance pipeline on Launchpad.

Selected Talks

Slides available at `http://speakerdeck.com/emaadmanzoor`.
Videos available at `http://eyeshalfclosed.com/talks/`.

- *Outlier Detection in Feature-evolving Data Streams.*
  - ACM SIGKDD 2018 Conference (research-track poster blitz presentation). **Aug 2018**
  - Outlier Detection Deconstructed workshop at SIGKDD 2018 (invited talk). **Aug 2018**
  - Facebook Artificial Intelligence Research (hosted by Kavya Srinet). **Aug 2018**
  - Symantec Research Labs (hosted by Kevin Roundy and Sandeep Bhatkar). **Aug 2018**
- *RUSH! Targeted Time-limited Coupons via Purchase Forecasts.* Heinz College, CMU. **May 2018**
- *Fast Memory-efficient Anomaly Detection in Streaming Heterogenous Graphs.*
  - ACM SIGKDD 2016 Conference (research-track oral presentation). **Aug 2016**
  - CMU Database Group Seminar (hosted by Christos Faloutsos). **Oct 2016**
  - RSA Laboratories (hosted by Zhou Li and Kevin Bowers). **Nov 2016**
  - CMU Statistical Networks Seminar (hosted by Cosma Shalizi). **Nov 2016**
  - INFORMS Annual Meeting 2016 (invited talk). **Nov 2016**
- *Scheduling Broadcasts in a Network of Timelines.* Masters Thesis Defense, KAUST. **May 2015**
- *Time-Inconsistent Planning.* InfoCloud Research Group Seminar, KAUST. **May 2014**
- *Reviving Failed Classifiers with Random Forests.* Yahoo! TechFM. **May 2013**
- *Building a Linux cluster with Beanstalkd..* PyCon 2012 tutorial. **Sep 2012**

Teaching

See `http://www.eyeshalfclosed.com/teaching/` for teaching material and student evaluations.

- 95-865 Unstructured Data Analysis (CMU). **Fall 2017, Spring 2018, Fall 2018**
- 95-813 Intermediate Databases (CMU). **Fall 2017**
- CSE-590 Supercomputing (Stony Brook). **Spring 2016**
- CSE-101 Introduction to Computers & IT (Stony Brook). **Spring 2016**
- Programming Languages and Compiler Design (BITS - Pilani). **Spring 2012**

Selected Graduate Coursework

All completed courses listed were awarded grades A- or higher. Fall 2018 courses are ongoing.

Economics & Social Sciences

- 88-702: Behavioral Economics (George Lowenstein, CMU) **Fall 2018**
- 47-958: Economining (Dokyun Lee, CMU) **Fall 2017**
- 90-906: Introduction to Econometric Theory (Edson Severnini, CMU) **Spring 2017**
- 90-908: Microeconomics (Brian Kovak, CMU) **Fall 2016**

Statistics & Machine Learning

- 10-715: Advanced Introduction to Machine Learning (Nina Balcan, CMU) **Fall 2018**
- 36-705: Intermediate Statistics (Larry Wasserman, CMU) **Fall 2016**

Computer Science

- CSE-506: Operating Systems (Michael Ferdman, Stony Brook University) **Fall 2015**
- CSE-532: Theory of Database Systems (Fusheng Wang, Stony Brook University) **Fall 2015**
- CSE-537: Artificial Intelligence (I.V. Ramakrishnan, Stony Brook University) **Fall 2015**
- AMCS-241: Probability and Random Processes (Mohammed-Slim Alouini, KAUST) **Fall 2014**
- CS-390: Computational Complexity (Antoine Vigneron, KAUST) **Fall 2014**
- CS-341: Advanced Topics in Data Management (Panos Kalnis, KAUST) **Spring 2014**
- CS-229: Machine Learning (Xiangliang Zhang, KAUST) **Spring 2014**
- CS-260: Design and Analysis of Algorithms (Mikhael Moshkov, KAUST) **Fall 2013**
- CS-240: Computing Systems and Concurrency (Hany Ramadan, KAUST) **Fall 2013**
- CS-220: Data Analytics (Xin Gao, KAUST) **Fall 2013**

Programming Languages

- Analysis: Python (preferred)
- Performance: C++ (preferred), Java (for distributed systems)