Emaad Ahmed Manzoor

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EDUCATION

Carnegie Mellon University – H. John Heinz III College, USA   **2016 –**
Ph.D., Information Systems.

Stony Brook University, 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.   GPA: 3.96 / 4.0
Thesis: Scheduling Broadcasts in a Network of Timelines.

Birla Institute of Technology and Science - Pilani, India   **2008 – 2012**
Bachelor of Engineering (Honors), Computer Science.   GPA: 8.17 / 10.0
Co-op host: Yahoo!, Bangalore, India.

PUBLICATIONS & PATENTS

1. *RUSH! Targeted Time-limited Coupons via Purchase Forecasts.*
   <u>Emaad Manzoor</u>, Leman Akoglu.
   ACM SIGKDD 2017 (applied data science track, top 85/396 submissions).

2. *Fast Memory-Efficient Anomaly Detection in Streaming Heterogenous Graphs.*
   <u>Emaad Manzoor</u>, Sadegh M. Milajerdi, Leman Akoglu.
   ACM SIGKDD 2016 (research track with oral, top 70/784 submissions).

3. *Method and apparatus for scheduling broadcasts in social networks.*
   <u>Emaad Ahmed Manzoor</u>, Panos Kalnis.
   Filed February 2015 (USPTO, WPO).

4. *Scheduling Broadcasts in a Network of Timelines.*
   <u>Emaad Ahmed Manzoor</u>, Haewoon Kwak, Panos Kalnis.
   Unpublished manuscript (extended version appears as a master's thesis), 2015.

AWARDS

- CMU GSA/Provost Office Conference Funding Award ($500).   **2017**
- ACM SIGKDD Student Travel Award ($1,750).   **2016, 2017**
- 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**
- King Abdullah University of Science and Technology Fellowship ($140,000)[2].   **2013**
- Erasmus Mundus LCT Masters Scholarship (EUR 40,000)[3].   **2013**
- Employee Performance Bonus, Yahoo! (INR 35,000).   **2012, 2013**
- Google Teaching Scholarship, BITS - Pilani, Goa Campus (INR 16,000)[4].   **2011**
- Consultancy Development Cell Fellowship, Ministry of Science & Tech., India (INR 10,000).   **2009**

INDUSTRIAL EXPERIENCE (FULL-TIME)

Yahoo!, Bangalore. Software Engineer.   **Jul 2012 – Aug 2013**
- Built (team of 4) a system for streaming "trending-topic" detection from user-generated content.
- Large impact within the company, improved over previous trend-detection latency by 600%.
- Implemented with Apache Storm, Kafka, HBase and Java.

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[1] Incomplete, transferred.
[2] $70,000/year for two years including tuition ($35,000), health insurance ($15,000), stipend ($20,000) and housing.
[3] Declined. Category A scholarship: EUR 20,000/year for two years. Awarded to 4 international applicants.
[4] For the undergraduate Software Development for Portable Devices course taught by Prof. Mangesh Bedekar.

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

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

Quantitative Engineering Design, San Francisco (remote). Research Intern. **Summer 2015**
Advised by cofounders William Wu (Ph.D., EE, Stanford) and Jiehua Chen (Ph.D., Statistics, Stanford).
• Designed and developed an online variant of a Bayesian model to predict financial fraud.
• Developed a reference implementation of Mondrian Forests (online random forests).
• Designed a distributed system architecture to enable online training of a classifier ensemble.

Oregon State University, Corvallis (remote). Google Summer of Code Intern. **Summer 2014**
• Designed and developed a REST service to enable IPMI operations over HTTP.
• Designed and developed an extensible, hierarchical CLI that delegates to the REST service.
• Design and implementation discussed at `eyeshalfclosed.com/tags/#gsoc2014-ref`.

Tachyon Technologies, Bangalore. Research Intern. **Summer 2012**
Advised by cofounder and MIT TR35 awardee Ram Prakash Hanumanthappa.
• Developed a fast, simple and effective algorithm to de-warp photographs of flat book pages.
• Implemented an algorithm from the low-level vision literature to flatten color gradients.
• Applied algorithms to transform photos of comic book pages into web-ready digital comic panels.
• Packaged into an Android app interfacing with my code in MATLAB over a Python HTTP bridge.

Yahoo!, Bangalore. Software Engineer Intern. **Fall 2011**
• Extended the "trending-topic" detection system to be centrally configurable and multi-threaded.
• Implemented a research prototype to detect geographically and demographically niche events.
• Offered and accepted a full-time position (top 3/14 interns from BITS – Pilani University).

University of Massachusetts, Lowell (remote). MVHub Summer of Code Intern. **Summer 2011**
• Built a Debian package for MVHub, a directory of non-profit services.
• Wrote Perl scripts to automate building and updating the Debian package.
• Wrote a Launchpad recipe and set up a PPA to conveniently host and install the package from.

TEACHING
• Unstructured Data Analysis. Homework design, Python tutorials and grading. **Fall 2017**
• Intermediate Databases. Grading and office hours. **Fall 2017**
• Programming Languages and Compiler Design. **Spring 2012**
• MIT Indian Mobile Initiative. Android development lab sessions and tutoring. **Summer 2011**
• Software Development for Portable Devices (BITS - Pilani Goa Campus). **Spring 2011**

SERVICE
• External reviewer for SocInfo, WWW, EuroSys, VLDBJ, CIKM.
• Organized TechFM, a weekly technical talk series at Yahoo! on math, science and technology.
• Frequent participant at Random Hacks of Kindness.

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

SELECTED	All slides available at `http://speakerdeck.com/emaadmanzoor`.	
TALKS	Videos available at `http://eyeshalfclosed.com/talks/`.	

- *Fast Memory-efficient Anomaly Detection in Streaming Heterogenous Graphs.*

– ACM SIGKDD 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.* Tech talk at Yahoo!.	**May 2013**
- *Building a Linux cluster with Beanstalkd.* Tutorial at PyCon India.	**Sep 2012**

SELECTED GRADUATE COURSEWORK

All completed courses listed were awarded grades A- or higher. Fall 2017 courses are ongoing. Spring 2018 courses are upcoming.

Economics and Social Sciences

- 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

- 10-702: Statistical Machine Learning (Larry Wasserman, CMU)	**Spring 2018**
- 10-703: Deep Reinforcement Learning & Control (Ruslan Salakhutdinov, CMU)	**Spring 2018**
- 10-708: Probabilistic Graphical Models (–, CMU)	**Spring 2018**
- 10-715: Advanced Introduction to Machine Learning (Nina Balcan, CMU)	**Fall 2017**
- 36-725: Convex Optimization (Aarti Singh & Pradeep Ravikumar, CMU)	**Fall 2017**
- 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**