

Emaad Ahmed Manzoor

350 Circle Road, Stony Brook, NY 11790
emanzoor@cs.stonybrook.edu
www.eyeshalfclosed.com

EDUCATION	Carnegie Mellon University, USA 2016 – Doctor of Philosophy, Information Systems. <i>Advisor:</i> Leman Akoglu.
	Stony Brook University, USA 2015 – 2016 Doctor of Philosophy, Computer Science. GPA: 3.89 / 4.0 <i>Advisor:</i> Leman Akoglu. <i>(Transferred)</i>
	King Abdullah University of Science and Technology, Saudi Arabia 2013 – 2015 Master of Science, Computer Science. GPA: 3.96 / 4.0 <i>Advisor:</i> Panos Kalnis. <i>Thesis title:</i> Scheduling broadcasts in a network of timelines.
	Birla Institute of Technology and Science - Pilani, India 2008 – 2012 Bachelor of Engineering (Honours), Computer Science. GPA: 8.17 / 10.0 <i>Co-op host organization:</i> Yahoo!, Bangalore, India.
RESEARCH EXPERIENCE	Securing Systems with Streaming Heterogenous Graph Mining Aug 2015 – <i>Advised by Leman Akoglu, DATA Lab, Stony Brook University.</i> Discovering advanced persistent threats from system event log streams. Project page: http://www3.cs.stonybrook.edu/~emanzoor/streamspot/
	Scheduling Broadcasts in a Network of Timelines Jan 2014 – May 2015 <i>Advised by Panos Kalnis, InfoCloud Research Group, KAUST.</i> Quantified the interactions between behavioural phenomena that influence attention in networks of timelines. Designed broadcast scheduling algorithms to maximize the expected attention obtained. <ul style="list-style-type: none">• Introduced and quantified monotony aversion exhibited by social network users with timelines.• Formulated the timeline information exchange process and an attention potential objective function.• Framed the optimization problem as a nonlinear integer program, presented and validated algorithms.
	Detecting Malware Android Applications Aug – Dec, 2013 <i>Advised by Xiangliang Zhang, MINE Lab, KAUST.</i> Applied graphical models from natural language processing to an Android permission dataset to reduce dimensionality in an interpretable manner. Evaluated its performance on a malware classification task. <ul style="list-style-type: none">• Reformulated the classification task as an NLP problem, with permissions forming the vocabulary.• Reduced dimensionality while remaining interpretable using Latent Dirichlet Allocation.• Evaluated the subsequent classification performance of various machine learning algorithms.
PUBLICATIONS & PATENTS	<u>Emaad Ahmed Manzoor</u> , Sadegh Momeni, Venkat N. Venkatakrishnan, Leman Akoglu. <i>Fast Memory-Efficient Anomaly Detection in Streaming Heterogenous Graphs</i> . Under submission, 2016. <u>Emaad Ahmed Manzoor</u> , Haewoon Kwak and Panos Kalnis. <i>Scheduling Broadcasts in a Network of Timelines</i> . Under preparation, 2015 –. <u>Emaad Ahmed Manzoor</u> and Panos Kalnis. <i>Method and apparatus for scheduling broadcasts in social networks</i> . US Provisional Application 62/118,570, filed February 2015.

PROFESSIONAL EXPERIENCE	Quantitative Engineering Design , San Francisco. Research Intern.	Apr – Aug, 2015
	Designing fault-tolerant distributed systems and algorithms for online learning from data streams.	
	Oregon State University , Corvallis. Google Summer of Code Intern.	May – Aug, 2014
	Designed and developed a framework that enables running IPMI operations on datacenter machines from systems that lack the standard IPMI utilities, including devices like Android smartphones.	
	<ul style="list-style-type: none"> Designed and developed a REST service enabling IPMI operations over HTTP. Designed and developed an extensible, hierarchical CLI that delegates to the REST service. Designed and implemented mechanisms for fine-grained user-machine permission management. 	
	Yahoo! , Bangalore. Software Engineer.	Jul 2012 – Aug 2013
	Built a streaming system for event detection from live content feeds like Twitter, Facebook and newswire. Reduced event detection latency by over 600%. Powers <i>Trending Now</i> on the Yahoo! homepage.	
	<ul style="list-style-type: none"> Wrote Storm components for streaming n-gram counting and cardinality estimation. Designed and evaluated HBase schemas to minimize the duration of failure recovery. Wrote adapters to preprocess source content from Kafka before routing it to Storm. 	
	Tachyon Technologies , Bangalore. Research Intern.	May – July, 2012
	Designed algorithms to automatically transform comic book photographs into device-friendly comic panels. Advised by CEO and MIT TR35 awardee Ram Prakash Hanumanthappa.	
	<ul style="list-style-type: none"> Developed a fast algorithm to de-warp photographs of flat book pages. Implemented an algorithm from the low-level vision literature to flatten colour gradients. Built an Android app interfacing with my algorithms in MATLAB over a Python HTTP bridge. 	
	Yahoo! , Bangalore. Software Engineer Intern.	Jul – Dec, 2011
	Extended the event detection system to be centrally configurable and multi-threaded. Reduced deployment time from days to a few minutes. Accepted a full-time position (offered to 3/14 interns).	
	<ul style="list-style-type: none"> Wrote an XML-based configuration system that also enabled fine-grained load balancing. Refactored code to process multiple locales in parallel while balancing per-machine load. Implemented a research prototype to detect geographically and demographically niche events. 	
	University of Massachusetts , Lowell. MVHub Summer of Code Intern.	Jun – Sep, 2011
AWARDS	Built a Debian package for MVHub, a directory of non-profit services maintained by the Community Software Lab at the University of Massachusetts, Lowell.	
	<ul style="list-style-type: none"> Wrote configuration scripts as per the Debian package specifications. 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. 	
	Worldwide Top 100 (of 1720 teams), IEEE Xtreme 8.0 Programming Competition.	2015
	Best Mashery Hack, PennApps X, Philadelphia (sponsored by Intel).	2014
	International Travel Grant, PennApps X, Philadelphia (sponsored by PennApps).	2014
	King Abdullah University of Science and Technology Fellowship.	2013
	Erasmus Mundus LCT Masters Scholarship ¹ (awarded to 4 international applicants).	2013
	Employee Performance Bonus, Yahoo!.	Q2, Q3 2013
	Winner, Random Hacks of Kindness, Bangalore.	2011
	Consultancy Development Cell Fellowship, Ministry of Science and Technology of India.	2009

¹Declined, having accepted the KAUST Fellowship.

TALKS	• <i>Scheduling Broadcasts in a Network of Timelines</i> . Thesis Defense.	May 2015
	• <i>Time-Inconsistent Planning</i> . InfoCloud Seminar.	May 2014
	• <i>Time-sensitive Diffusion Network Inference</i> . Machine Learning Project Presentation.	May 2014
	• <i>Reinforcement Learning</i> . Machine Learning Course Lecture.	Apr 2014
	• <i>Finding Communities in Networks</i> . Data Mining Course Lecture.	Nov 2013
	• <i>Reviving Failed Classifiers with Random Forests</i> . Tech talk at Yahoo!.	May 2013
	• <i>Building a Linux cluster with Beanstalkd</i> . Tutorial at PyCon India.	Sep 2012
	• <i>quFiles: The right file at the right time</i> . Data Storage Technologies Seminar.	Nov 2012
TEACHING	• <i>Programming Languages and Compilers</i> . Course project design and grading.	Spring 2012
	• <i>MIT Indian Mobile Initiative</i> . Android development lab sessions and tutoring.	Summer 2011
	• <i>Software Development for Portable Devices</i> . Google-funded teaching assistant.	Spring 2011
SERVICE	External reviewer for WWW, EuroSys, VLDBJ, CIKM. Organised TechFM, a weekly technical talk series at Yahoo! on math, science and technology.	
LANGUAGES	C++, Python, Java, C.	