

Amit Kumar Dutta

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EDUCATION **The University of Alabama at Birmingham**, Birmingham, Alabama, USA
M.S., Computer and Information Sciences, August 2012 - April 2014
• CGPA: **3.9**/4.0, Outstanding Graduate Student Award (April 2014), UAB, CIS

Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
B.SC., Computer Science and Engineering, October 2009
• CGPA: **3.74**/4.0 (**9th** in a class of 120 students)

PUBLICATIONS “How Much Does Storage Really Cost? Towards a Full Cost Accounting Model for Data Storage”, Amit Kumar Dutta and Ragib Hasan, GECON 2013. (Acceptance rate: 28%)
“Phish-Net: Investigating Phish Clusters Using Drop Email Addresses”, Shams Zawoad, Amit Kumar Dutta, Alan Sprague, Ragib Hasan, and Jason Britt, APWG eCrime 2013.
“Towards Building Forensics Enabled Cloud Through Secure Logging-as-a-Service”, Shams Zawoad, Amit Kumar Dutta and Ragib Hasan, IEEE Transactions on Dependable and Secure Computing (TDSC), SI-Cyber Crime. (Impact factor **1.351**)
“Prefix transpositions on binary and ternary strings”, Amit Kumar Dutta, Masud Hasan and M. Sohail Rahman, Information Processing Letters, Volume 113, Issue 8, 30 April 2013, Pages 265–270, Elsevier

PROFESSIONAL 10/2015 - Present, Software Engineer, **Facebook** (<http://www.facebook.com>), Menlo Park, California, USA
EXPERIENCE

- Working in Data Infrastructure group.

6/2014 - 10/2015, Member of Technical Staff - vSphere Core Storage, **VMware** (<http://www.vmware.com>), Palo Alto, California, USA

- Designed and implemented vSphere/ESXi 1024/4096 storage volumes/paths feature (Previous limit 256/1024). Re-architected existing workflows between vmkernel/host process to scale up storage support in ESXi.
- Modeled and coded entirely new features from scratch (e.g. IOFilter support in vSphere, SeSparse support for VMFS 6, vSphere Memory Analyzer).
- Analyzed and Debugged existing code base to learn virtualization programming platform and triage bugs as storage/vSphere guru.
- In VMware hackathon, I built a system to triage bugs automatically and assign to most relevant groups using log parsing, data mining techniques.
- Technologies: C++, Java, Unix, GDB, Virtualization, Storage, Perforce

5/2013 - 8/2013, Software Engineering Intern, **MedSnap** (<https://www.medsnap.com>), Birmingham, Alabama, USA

- Developed and coded IT infrastructure automation framework for MedSnap’s ecommerce site (<http://www.medsnap.com>) which enabled significant savings in cloud charges, very quick and easy reproduction of development environment on demand. Technologies: Ruby, OpsCode Chef, Vagrant
- Implemented Prescription/Non-Prescription pills search features in MedSnaps field data collection web tool. Technologies: LAMP
- Defined pill archival and extraction workflow for Medsnaps Snap Lab and coded two daemons for this purpose. Technologies: UNIX Shell Scripting, C#

8/2012 - 4/2014, Graduate Assistant, **The University of Alabama at Birmingham**, Birmingham, Alabama, USA

- As a primary teaching assistant, I taught Computer Programming and Discrete Mathematics, designed problems, graded exams and assisted secondary teaching assistants to manage overall class.
- Technologies: Java, Discrete Mathematics

¹Codeproject articles: <http://www.codeproject.com/script/Articles/MemberArticles.aspx?amid=5747687>, LinkedIn profile: <http://www.linkedin.com/in/amitdutta/>, github: <https://github.com/amitdutta>

5/2010 - 7/2012, Software Engineer, **Vizrt** (<http://www.vizrt.com>), Dhaka, Bangladesh

- Performed product design and architecture related research of Viz Media Desk (the core framework of all Vizrt MAM applications), coding Viz Media Logger (http://www.vizrt.com/products/viz_media_logger/article3886.ece) on top of this framework.
- Developed reusable components (e.g. media player, media time code control, GUI rendering from XML specification etc.) and a media plug-in in Vizrt's proprietary media framework to render D3DImage in WPF surface so that the Video Player can support overlays.
- Coded custom controls in WPF, a tool to generate stub classes from WADL (Web Application Description Language) specification and corresponding serialization, authorization functionality, writing unit/integration test cases.
- Technologies: C#, C++, Unix Kernel, TCP/IP, Perl, Mercurial

9/2009 - 8/2010, Offshore Consultant (Software Engineer), **Quantitative Intelligence (QI), Inc.** (<http://www.qianalysis.com>), Princeton NJ

- Integrated outlook meeting synchronization in QI, improved QI outlook add-on and relationship graph to implement this functionality.
- Improved and added features in QI core service, which archives, stages and clusters email and social networking data in relational database.
- Fixed various issues, improved group and event analysis in QI's relationship map.
- Technologies: C#, Windows Forms, SQL Server CE, WIX, SVN

12/2009 - 4/2010, Senior Programmer (Technology/Development), **Axiata Bangladesh Limited (Robi)** (<http://robi.com.bd>), Dhaka, Bangladesh

- Implemented CXO's chat room where higher management can chat with general employees. Typical features were web based chat client, anonymous log in, login privilege based UI, private message, smilies, flood control, realtime log viewing etc.
- Wrote custom Order Queue Management System to ensure better quality of service. The system can generate tokens and display context dependent advertisement.

12/2008 - 12/2009, Software Engineer, **Binary Quest Limited** (<http://www.binaryquest.com>), Dhaka, Bangladesh

- Developed order entry module in an ERP system, coded database layer for Employee Attendance Management System, implemented complex business logic in stored procedures to generate employee attendance report.
- Coded MAC and group based authentication system, video capturing and reporting software and auto key stroke simulation (this application accesses database through a web service and simulate keyboard to fill the data in a form).

COMPUTER SKILLS

Programming Languages: Java, C#, C++, UNIX Shell Programming
Database: Oracle, MySQL, MS SQL Server, SQLite, XML
Frameworks & Platforms: WPF, WCF, Windows Forms, J2SE, J2EE, OpenGL
Operating Systems: Unix, Windows
Scientific computing & Typesetting Tools: MATLAB, Quartus, Pspice, L^AT_EX

SELECTED ACADEMIC PROJECTS

Lexi Editor Implementation: Implementation of Lexi editor (as proposed in the Design Pattern book of "The Gang of Four"). Source: <https://github.com/AmitDutta/Lexi>

AI Strategy for Reversi/Othello: Developed an intelligent strategy for two agent based board game Othello and won Reversi tournament arranged among 20 teams.

3D Viewing and Modeling: Implementation of 3D world and object (A Ferris Wheel) development. (Video demo: <http://bit.ly/SLi9xh>, Source: <https://github.com/AmitDutta/3d-Ferris-Wheel>)

3D Visualization of a Fair (Video demo: <http://bit.ly/11AZDg5>)¹: An implementation of the celebration of Pohela Boishakh in Boishaki Mela (A traditional fair which is celebrated on the first day of Bengali calendar). Platform: Open GL with C++

¹For more details of my academic projects (source code, presentations and schematic diagrams) please visit <http://www.amitdutta.net/education.php>