

## Faisal Ahmed

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### Research Interests

Data/Web mining, HCI, NLP, User Interface, Web Accessibility, Applied Machine Learning

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### Education

<b>PhD in Computer Science</b> Department of Computer Science State University of New York at Stony Brook	<b>Expected : Aug, 2012</b> <b>CGPA 3.76</b>
<b>MS in Computer Science</b> Department of Computer Science State University of New York at Stony Brook	<b>2011</b> <b>CGPA 3.76</b>
<b>Bachelor of Science in Computer Science and Engineering</b> Department of Computer Science and Engineering, Bangladesh University of Engineering and Technology (BUET)	<b>2006</b> <b>CGPA 3.87</b>

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### Selected Work Experiences

#### 01/2008 - Present: Research Assistant

- Conducting research on Accessible Information Technology for people with visual disabilities. Recent work is on Non-Visual Skimming and Touch Interface for improving accessibility of web content. Regarding NLP I am working on extracting clinical relationships from doctor-patient conversation/narratives. I am a key member of the Hearsay ([www.cs.sunysb.edu/~hearsay/](http://www.cs.sunysb.edu/~hearsay/)) R&D team. *Technologies Used:* C++, Java, JavaScript, JNI, MSTTS.

#### 01/2011 - Present: Research Assistant

- Research assistant working with a company: Charmtech Labs LLC. Working on web mining and web accessibility. Designing and developing assistive technologies for visually impaired individuals. *Technologies Used:* Java, JavaScript, XML.

#### 06/2011 – 08/2011: Technology Analyst, Morgan Stanley Smith Barney

- I have worked in MSSB TapsCo where I developed a reporting system for monitoring inbound & outbound file transmission in mainframe. *Technology Used:* Perl, JCL.

#### 06/2010 – 08/2010: Technology Analyst, Morgan Stanley

- I have designed and developed a Batch Milestone Management application to manage MS's numerous business deliverables efficiently. I also worked on a trade volume console for visualizing incoming live traffic. My work includes automating the task of volume data extraction from datacenter, report creation and sending. *Technology Used:* Perl, ASP.NET, Sybase.

#### 06/2009 – 08/2009: Research Intern, Microsoft Research

- Researched on building a generic accessible medical data/user interface on traditional Gaming Consoles (i.e., Xbox) at Microsoft Medical Media Lab. I designed and developed a prototype for patient to let them access and view their status using Xbox which is has been deployed at Washington Hospital Center. *Technology Used:* .NET.

#### 01/2007 – 12/2007: Member R&D, Commlink Infotech ([www.commlinkinfotech.com](http://www.commlinkinfotech.com)).

- Projects worked on: Web based ERP (Enterprise Resource Planning) system. I completed the Payroll Management System module. *Technologies Used:* .NET, PHP, HTML, MySQL, AJAX, JavaScript, Apache.

#### 08/2006 – 12/2007: Member R&D, Streamstech Inc. ([www.streamstech.com](http://www.streamstech.com))

- Worked as a designer and developer of plug-ins for Open Source GIS (Global Information Systems) software. *Technologies Used:* C, C++, .NET framework

**03/2006 – 04/2006: Departmental Website Development**

- Worked as a team leader for developing the website for Computer Science & Engineering Department, BUET ([www.buet.ac.bd/cse](http://www.buet.ac.bd/cse)). *Technologies Used:* PHP, HTML, AJAX, JavaScript, MySQL, Apache, Flash.

**05/2005 – 05/2006 : Hospital Management System**

- Development of Hospital management system for City Hospital, Dhaka, Bangladesh. *Technology Used:* Visual Basic.

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**Teaching Experience**


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**01/2008 – 05/2009: Teaching Assistant, Department of Computer Science, SUNY StonyBrook**

- Introduction to Computer Science, Discrete Mathematics.

**04/2009: Guest lectures, Department of Computer Science, SUNY Stony Brook**

- Recitation class on Discrete Mathematics

**07/2001- 07/2005: Lecturer, Sunrise: Engineering University Admission Coaching Center, Bangladesh**

- Taught Mathematics, Physics, Chemistry

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**Awards & Honors**


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- **04/2012: Best Paper Award**, International Cross-Disciplinary Conference on Web Accessibility, W4A 2012.
- **05/2009: Best TA Award**, Computer Science Department, SUNYSB.
- **01/2008: Presidential fellowship** from Stony Brook University.
- **09/2006: 1<sup>st</sup> prize in Website Development Competition** arranged by the Department of CSE, BUET([www.buet.ac.bd/cse/common/credits.php](http://www.buet.ac.bd/cse/common/credits.php)).
- **05/2003: University Merit Scholarship** (awarded to the top 5 students of the department) for two semesters at BUET.

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**Programming Skills**


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- Java, C/C++, C#, Perl, Python, Assembly, SQL, MCML
- XML, XQuery, Oracle, MySQL, PostGreSQL, Sybase
- HTML, PHP, ASP.net, JSP, Java Script, Struts, Hibernate, LAMP
- Eclipse, MS Visual Studio .NET, MapWindow

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**Courses Taken**


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- **Graduate:** Compiler Design, Analysis of Algorithms, Theory of Database Systems, Logic in Computer Science, Machine Learning, Artificial Intelligence, Fundamental of Networks, Discrete Mathematics, Information retrieval
- **Undergraduate:** Operating system, Computer Architecture, Database, Digital Logic Design, Theory of Computation, Software Engineering, Numerical Methods, Computer Graphics.

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**Selected Projects**


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- **Hearsay:** I have worked as a member of development team of Hearsay. Hearsay is a non-visual web browser which provides context directed browsing experience to the visually impaired people. It provides various input and output interface to facilitate numerous user needs. *Technologies Used:* Java, C++, JavaScript, HTML
- **Radiology Search Engine:** A project in collaboration with Stony Brook University hospital. I led a team of four to make a radiology search engine which is built upon Lucene indexing System. The search engine includes account management, bookmark management, incremental indexing etc. The project is being under installation. *Technologies Used:* JSP, JavaScript, MySQL, HTML
- **Skimming:** I have analyzed various summarization techniques and designed an algorithm of skimming specially for blind individuals. I have evaluated the effectiveness of the approach experimentally and by doing user study. *Technologies Used:* Java, JavaScript
- **Extraction of Medical Information:** I have worked on extracting clinical relationships from doctor-patient conversation/narratives. I have used SNOMED to identify the medical terms on the doctor patient conversation as attribute and devised an algorithm to find the attribute value, if it has any. This task makes the data processing significantly faster. *Technologies Used:* Java, MySQL

- **Voice Activated Home Appliance System** - led a team of five to design and implement an appliance system for manipulating domestic electronic equipments by voice. *Technologies Used:* C++, MS Voice SDK
- **Classifying articles from 20 online Newsgroups** – I built a classifier using Expectation Maximization algorithm, a technique in Statistical Machine Learning. *Technology Used:* Java.
- **Compression at bit level by increasing redundancy in static binary file** -- Research project to find out maximum compression limit of static files. *Technology Used:* Java.
- **Compiler Design and Implementation** – I built a compiler from scratch, for an object oriented language. *Technologies Used:* flex, bison, C
- **Optical Character Identification** – Worked in a team to build a model for indentifying Bengali Characters, using neural network. *Technology Used:* C++

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## Patent

U.S. Patent Pending (13458961): Borodin Y., A. Dimitriyadi, Y. Puzis, **F. Ahmed**, V. Melnyk "Combining Web Browser and Audio Player Functionality to Facilitate Organization and Consumption of Web Documents". Charmtech Labs LLC, 2012

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## Publications

- **BEST PAPER AWARD: Faisal Ahmed**, Yevgen Borodin, Yury Puzis and I.V. Ramakrishnan. "*Why Read if You Can Skim: Towards Enabling Faster Screen Reading*". To appear in: International Cross-Disciplinary Conference on Web Accessibility, W4A 2012.
- **Faisal Ahmed**, Muhammad Islam, Yevgen Borodin and I.V. Ramakrishnan. "*Assistive Web Browsing with Touch Interfaces*". In Proceedings of the 12th International ACM SIGACCESS Conference on Computers and Accessibility, (ASSETS'10).
- Muhammad Asiful Islam, **Faisal Ahmed**, Yevgen Borodin, I.V. Ramakrishnan, "*Thematic Organization of Web Content for Distraction-Free Text-to-Speech Narration*". In Proceedings of CIKM 2011.
- Y. Borodin, **F. Ahmed**, M.A. Islam, S. Feng, Y. Puzis, V. Melnyk, G. Dausch, I.V. Ramakrishnan, "*Hearsay: A New Generation Context-Driven Multi-Modal Assistive Web Browser*". In Proceedings of the 19th International World Wide Web Conference (WWW'10).
- Muhammad Asiful Islam, **Faisal Ahmed**, Yevgen Borodin, Jalal Mahmud, I.V. Ramakrishnan, "*Improving Accessibility of Transaction-centric Web Objects*". In Proceedings of the 10th SIAM International Conference on Data Mining, (SDM'10).
- Yury Puzis, Yevgen Borodin, **Faisal Ahmed** and I.V. Ramakrishnan. "*An Intuitive Accessible Web Automation User Interface*". To appear in: International Cross-Disciplinary Conference on Web Accessibility, W4A 2012.
- I.V. Ramakrishnan, J. Mahmud, Y. Borodin, M. A. Islam, **F. Ahmed**, "*Bridging the Web Accessibility Divide*". In Proceedings of the 4th Int'l Workshop on Automated Specification and Verification of Web Systems (WWV'08), Elsevier ENTCS, Volume 235, Pages 107-124, April 2009.
- Zhiyuan Zhang, **Faisal Ahmed**, Arunesh Mittal, IV Ramakrishnan, Rong Zhao, Asa Viccellio and Klaus Mueller, "*AnamneVis: A Framework for the Visualization of Patient History and Medical Diagnostics Chains*". In Proceedings of the Workshop on Visual Analytics in Healthcare (VAHC 2011).
- Borodin, Y., A. Sovyak, A. Dimitriyadi, Y. Puzis, V. Melnyk, **F. Ahmed**, G. Dausch, I.V. Ramakrishnan "*Universal and Ubiquitous Web Access with Capti*" To appear in: International Cross-Disciplinary Conference on Web Accessibility, W4A 2012.
- I.V. Ramakrishnan, J. J. Tithi, A. Bagate, V. Khot, **F. Ahmed**, D. Harrington, MD, R. Talati, MD "Organizing RadLex Lexicon for Efficient Retrieval of Radiology Documents" In Proceedings of IHI 2012.