

Ahmed Tahsin Zulkarnine

Email: tahsinz@gmail.com

3814 45th ST SW
Calgary, Alberta ,Canada, T3E3V6
Phone: +1 403 401 1367
<http://www.tahsinz.com>

Education

Master of Science, Computer Science, University of Lethbridge, Lethbridge, Alberta, Canada
2010-2012

- Thesis title: "*Design structure and Iterative Release Analysis of Scientific Software*"
- Supervisor : Dr. Shahadat Hossain
- CGPA: 3.90/4.0

Bachelor of Science, Computer Science and Information Technology, Islamic University of Technology, Gazipur, Dhaka, Bangladesh 2002-2006

- CGPA: 4.35/5.0 ~ 3.68/4.0

Awards and Distinctions

- International Research Award, University of Lethbridge, Alberta 2010-2011
- SGS Entrance and Continuing Award, University of Lethbridge, Alberta 2010-2012
- Advantage Award, University of Lethbridge, Alberta 2010-2011
- Organization of Islamic Conference (OIC) undergraduate scholarship (covered tuition, food and accommodation), 2002-2005.
- Participated in main team representing the Islamic University of Technology at ACM ICPC Asia Regional 2004 and NCPC(Bangladesh Government) 2004.
- Stood 2nd and 3rd in IUTPC 2004 and 2005 (Islamic University of Technology Programming Contest) respectively.

Research Interests

Software Architecture, Software Engineering, Software Evaluation, Scientific Software, Combinatorial Optimization, Algorithms.

Publications

- A.Zulkarnine, M.Sc. thesis "*Design Structure and Iterative Release Analysis of Scientific Software*" at University of Lethbridge, 2012.
- S. Hossain and A. Zulkarnine, "*Iterative Release Analysis of Scientific Software*", In 10th Working IEEE Conference on Software Architecture 2012 under review process.
- S. Hossain and A. Zulkarnine, "*Design structure of scientific software - a case study,*" in Invest on Visualization-Proceedings of the 13th International DSM Conference, 2011, pp. 129–141.

Research Experience

Research Assistant, Computer Science, University of Lethbridge, Lethbridge, Alberta, Canada 2010-2012

- *We implemented a DSM partitioning algorithm using sparse matrix data structure CRS, and its timing was better than those obtained from the most widely used C++ library “boost”.*
- *We computed several architectural complexity metrics, compared releases and total release costs of a number of open source scientific research software.*
- *Integrated column Jacobian column coloring toolkit DSJM with widely used AD software ADOLC and CppAD in order to find out the integration effort for scientific software using COCOMO II model.*

Teaching Experience

Teaching Assistant: CSPC 3620 “Data Structure and Algorithms”, Department of Math and Computer Science, University of Lethbridge, Lethbridge, Alberta, Canada - Spring 2012.

- *Efficient algorithm design and algorithm analysis. Abstract data types and data structures. Algorithm design and problem-solving techniques for sorting problems, tree-based problems, and graph-based problems.*

Teaching Assistant: CSPC 3740 “Programming Languages”, Department of Math and Computer Science, University of Lethbridge, Lethbridge, Alberta, Canada - Fall 2011.

- *A comparison of programming languages and their implementations. One language from each of the following families: functional, declarative/logic, Object-Oriented. Topics selected from: garbage collection, heap management, procedural languages, historical developments.*

Teaching Assistant: CSPC 2620 “Fundamentals of Programming II”, Department of Math and Computer Science, University of Lethbridge, Lethbridge, Alberta, Canada - Fall 2010.

- *Introduction to object-oriented programming techniques: classes, objects, and methods. Generic programming. Recursion. Abstract data types: lists, stacks, queues, priority queues, binary trees. Algorithms for searching and sorting, and algorithm analysis.*

Teaching Assistant: CSPC 1620 “Fundamentals of Programming I”, Department of Math and Computer Science, University of Lethbridge, Lethbridge, Alberta, Canada - Spring 2011.

- *Introduction to problem-solving and algorithms. Machine representation of data. Implementation of algorithms in a programming language. Fundamentals of programming concepts including branching and loops. Top-down programming and modular design. Arrays. Records. Techniques for constructing elegant and robust programs.*

Teaching Assistant: Help session instructor, Department of Math and Computer Science, University of Lethbridge, Lethbridge, Alberta, Canada - Spring 2011, Fall 2011, Spring 2012.

- *Help students with assignments and other course problems for courses CSPC 1620 “Fundamentals of Programming I” and CSPC 2620 “Fundamentals of Programming II”.*

Community Involvement / Administrative Activity

- *Elected as **Vice President Internal**, University of Lethbridge Graduate Student Association (ULGSA) for term 2012-2013.*

Employment

- **Web Application Developer**, Commerx Corporation, Calgary, Alberta, Canada. July 2012 – Present.
- **Research and Teaching Assistant**, Department of Math and Computer Science, University of Lethbridge, Lethbridge, Alberta, Canada. June 2010 - to date.
- **Network Quality Engineer**, Network Quality, Orascom Telecom Bangladesh Limited (Banglalink), Dhaka, Bangladesh. January 2010 - June 2010.
- **Network Quality Junior Engineer**, Network Quality, Orascom Telecom Bangladesh Limited (Banglalink), Dhaka, Bangladesh. August 2007 - December 2009.
- **Junior Software Engineer**, Software Development, Brotecs Technology Limited, Dhaka, Bangladesh. September 2006 - April 2007.

Selected Software Developed

- C/C++ software "**Statistical Toolkit for Software Code Base (STSCB)**" for computing architectural complexity metrics, compare releases and total release between any two releases.
- **Numerous commercial and organizational websites** using programming and scripting languages: PHP, ASP.NET, AJAX, ASP.NET, Perl, etc and using database: MySql and MsSql. For more details visit <http://www.tahsinz.com>
- C# software **Trackwallet** for tracking personal accounting which got popular rating in www.download.com.
- Java Micro edition software **IUTBluePAN** which initiates a Bluetooth personal area network and supports group conversation.

References

Available Upon Request