

Education

- **2003-2005** Indiana University-Bloomington, Ph.D. Degree in Computer Science with focus on databases and data mining. Advisor: Prof. Dirk Van Gucht.
Thesis title: *A Measure-Theoretic Framework for Constraints and Bounds on Measurements of Data.*
- **2001-2003** Indiana University-Bloomington. Masters degree in Computer Science with focus on software engineering management. GPA 3.97.
- **1995-2000** Birzeit University. Bachelors degree in Engineering. Major: engineering, minor: computer science. GPA 4.0 (high distinction).
- **1987-1995** Friends School. Graduated with high distinction.

Research

- Investigating measure constraints derived from additive measures in relational databases.
- Investigating and implementing bounds for the frequent itemset problem in data mining.
- Investigating and implementing techniques of histogram construction for the cardinality estimation problem in database management systems.
- Optimization of the software engineering cycle.

Peer-Reviewed Publications

1. Bassem Sayrafi, Dirk Van Gucht. Differential Constraints. ACM PODS, Baltimore, Maryland 2005.
2. Bassem Sayrafi and Dirk Van Gucht. Inference systems derived from additive measures. Workshop on causality and causal discovery In Conjunction with the Seventeenth Canadian Conference on Artificial Intelligence (AI'2004), London, Canada 2004.
3. Chris Gianella and Bassem Sayrafi. An Information Theoretic Histogram for Single Dimensional Selectivity Estimation. ACM Symposium on Applied Computing, Santa Fe, New Mexico 2005.
4. Bassem Sayrafi, Dirk Van Gucht and Marc Gyssens. Measures in databases and data-mining. Submitted.
5. Bassem Sayrafi, Dirk Van Gucht and Paul Purdom. On the effectiveness and efficiency of computing bounds on the support of itemsets in the frequent itemsets problem. Open Source Data Mining Workshop on Frequent Pattern Mining Implementations in Conjunction with ACM SIGKDD, Chicago, United States 2005.

Work Experience

- **Sept. 2005 - Present** Assistant Professor of Computer Science, Birzeit University. Course load includes discrete mathematics, databases, and programming.
- **Aug. 2003 - Aug 2005** Research Assistant funded by NSF Grant *IIS – 0082407*. Research involved theoretical analysis of data mining algorithms and developing and implementing heuristics for these algorithms using C++.
- **Sept. 2002 - May 2003** Team Manager and Quality assurance monitor. Managing projects involving coldfusion, PHP, C#. Monitoring and executing test plans.
- **May 2002 - Aug. 2002** Intern Engineer at IDS Software Systems (www.idsusa.com), CA. Duties: data design and integration, project planning and automated quality assurance testing.
- **Jan. 1999 - Aug. 2001** Software Engineer at IDS, Ramallah. Duties: database admin. and design, query optimization and GUI design and statistics programming using C.

Computer Skills & Coursework

- **Skills** C, C++, Perl, Java, and databases Informix, Oracle, MySQL.
- **Coursework** advanced database concepts, database theory, operating systems, software engineering and management, analysis of algorithms, artificial intelligence, analysis and probability and math. statistics.

Projects

- **Tool-2-Tool** An ANOVA utility that compares the performance of different tools used in the semi-conductor industry.
- **batchMANAGER** A tool designed to assist power-users to define and schedule jobs. It includes a background Unix-based daemon that runs the jobs at the designated times.
- **dpMINING** A data-mining utility that integrated CART into dataPOWER
- **dbtools** A Unix utility that gives administrators powerful database functions.
- **BringIN** Window A utility for data alignment and correlation on existing worksheets.
- **NACHOS** An operating system in C++ that involved implementation of multitasking, basic system calls, demand paged virtual memory, basic file system and network support.
- **LIT Help Desk** A campus-wide support system using PHP and mySQL.

Honors & Awards

- USAID Scholarship. Awarded for a Masters degree in computer science.
- Nominated for Fullbright Scholarship for a Masters degree.
- Valedictorian at the Birzeit University Silver Graduation Ceremony, 2000.
- Excellent Academic Achievement Award 1997-2000
- Deans honors' list 1996-2000
- Valedictorian at the Friend Schools Graduation Ceremony, 1995.

References:

Professor Dirk Van Gucht (vgucht@cs.indiana.edu)
Professor Paul Purdom (pwp@cs.indiana.edu)
Professor Ed. Robertson (edrbtn@cs.indiana.edu)
Dr. Hanna Bullata (050-496618)
Professor Marc Gyssens (marc.gyssens@uhasselt.be)