

Tamar Berman

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1311 Chicago Ave, Apt 402, Evanston, Illinois 60201

Education

Ph.D. in Music 6/2006

Northwestern University School of Music, Evanston, Illinois

➤ The dissertation, titled "A Method for Discovering Musical Patterns through Time Series Analysis of Symbolic Data" focuses on search, retrieval and data mining of music databases

➤ Dissertation advisor: Richard D. Ashley

➤ Visiting Scholar at the University of Chicago Department of Computer Science (2002-2003)

Master of Business Administration (MBA) 11/2000

Technion - Israel Institute of Technology, Haifa, Israel

➤ Specialized in the Hi-tech Industry

Bachelor of Science (B.Sc.) in Information Systems Engineering 12/1992

Technion - Israel Institute of Technology, Department of Computer Science, Haifa, Israel

➤ Received President's Award for achievements in final year of studies; Graduated cum laude

Work Experience

Teacher/Lecturer

Teacher of Hebrew Language, Beth Hillel Congregation Bnai Emunah

1/2008-Present

Teacher of Hebrew Language and Music, Am Yisrael Congregation

11/2007-Present

"Management Information Systems", Northeastern Illinois University

8/2004-12/2004

"Introduction to Music Technology", Northwestern University School of Music

1/2004-6/2004

Researcher

Independent Researcher

7/2007-Present

Postdoctoral Research Associate, University of Illinois at Urbana-Champaign,

5/2006-6/2007

International Music Information Retrieval Systems Evaluation Laboratory (IMIRSEL)

Researcher, University of Illinois at Urbana-Champaign, IMIRSEL

6/2005-5/2006

Vocalist

High Holidays Ensemble, North Suburban Synagogue Beth El, Highland Park

8/2002-Present

Solo performances with piano accompaniment

1/1998-Present

Teaching Assistant

"Technology in the Music Classroom", Northwestern University School of Music

3/2003-5/2003

"Programming I", Northwestern University School of Music

10/2002-12/2002

Research Assistant

Professor Stephen Hill, Northwestern University School of Music

1/2003-3/2003

Professor Uzi Ornan, Technion - Israel Institute of Technology

1/1991-8/1991

Project Manager and Systems Analyst

Onyx Software Solutions, Kfar Sava, Israel

9/1998-7/2001

ATL Advanced Technologies, Tel Aviv, Israel

12/1996-8/1998

Afek Engineers, Rishon Lezion, Israel

8/1994-12/1996

Software Developer

Contahal, Givatayim, Israel

3/1993-7/1994

Publications

In Search of Harmony: A Constraint-Based Approach to the Task of Harmony Retrieval 12/2007

Tamar Berman

- Published in *Journal of New Music Research*, Volume 36, Issue 4, pp. 301-312
- Available at <http://www.informaworld.com/smpp/content?content=10.1080/09298210801927820>

A Method for Discovering Musical Patterns Through Time Series Analysis of Symbolic Data 9/2006

Tamar Berman

- Ph.D. Dissertation, Northwestern University
- Dissertation adviser: Richard D. Ashley
- Published by Proquest Information and Learning
- Available at <http://www.lib.umi.com/dissertations/fullcit/3212773>

Beyond Error Tolerance: Finding Thematic Similarities in Music Digital Libraries 9/2006

Tamar Berman, J. Stephen Downie, Bart Berman

- Chapter in *Research and Advanced Technology for Digital Libraries: Proceedings of the 10th European Conference, ECDL 2006, Alicante, Spain*
- Published by Springer-Verlag, Berlin Heidelberg, LNCS 4172-2006
- Available at <http://www.springerlink.com/content/w4g6w8617k218873>

A Time-based Approach to Musical Pattern Discovery in Polyphonic Music 8/2006

Tamar Berman

- Proceedings of the 9th International Conference on Music Perception And Cognition, Bologna, Italy;
- Available at <http://www.icmpc2006.org/>

A Data Model for Music Information Retrieval 7/2006

Tamar Berman

- Chapter in *Next Generation Information Technologies and Systems: Proceedings of the 6th International Conference, NGITS 2006, Shefayim, Israel*; O. Etzion, T. Kuflik and A. Motro (Eds.)
- Published by Springer-Verlag, Berlin Heidelberg LNCS 4032, pp. 165-173

Lectures

In Search of Harmony 3/1/2007

University of Iowa, School of Library and Information Science, Iowa City, Iowa

A Time-based Approach to Musical Pattern Discovery in Polyphonic Music 8/23/2006

International Conference on Music Perception and Cognition, Bologna, Italy

A Data Model for Music Information Retrieval 7/5/2006

Next Generation Information Technology and Systems, Shefayim, Israel

Music Information Retrieval – An Emerging Field 9/5/2005

Caesarea Rothschild Institute, University of Haifa, Haifa, Israel

Data Mining in Music 2/24/2005

Queen Mary University of London, London, United Kingdom

Teaching

Courses

- Instructor – Management Information Systems** **8/2004-12/2004**
Northeastern Illinois University, Chicago, Illinois
- Taught course in Information Systems in the College of Business and Management
 - Software taught: Access, Excel, Powerpoint
- Instructor – Introduction to Music Technology** **1/2004-6/2004**
Northwestern University School of Music, Evanston, Illinois
- Taught course which covered central topics and software in Music Technology, and explored trends and capabilities in the field through the use of current software products.
 - Topics covered included digital representations of music and sound, notation, sequencing, audio recording and editing, multimedia web publication, music information retrieval and computer aided music analysis
 - Software taught: Logic, SoundForge, Spark LE, Dreamweaver, Photoshop, Sibelius, Finale
- Teaching Assistant – Technology in the Music Classroom** **3/2003-5/2003**
Northwestern University School of Music, Evanston, Illinois
- Assisted students with implementation problems.
 - Graded papers
 - Prepared teaching materials
- Teaching Assistant – Programming I** **10/2002-12/2002**
Northwestern University School of Music, Evanston, Illinois
- Assisted students with programming problems.
- Instructor** **10/1989-12/1989**
Hashavshevet, Haifa, Israel
- Taught the DOS Operating System in a weekly course designed for users of the Hashavshevet accounting software. Developed original teaching aids.

Training

- Trainer** **1995, 1998, 2000**
Israel Discount Bank, Tel Aviv, Israel (2000)
Digital Equipment Corporation, Herzlia, Israel (1998)
Danya-Cebus, Or Yehuda, Israel (1995)
- Instructed programming teams on business aspects of new information systems.
 - Trained users of new information systems.
- Trainer** **1994**
Contahal, Givatayim, Israel
- Introduced programmers to Object Oriented Programming techniques.
- Leader of Women's Voices at the Technion Choir** **1991**
Technion - Israel Institute of Technology, Haifa, Israel
- Taught Soprano and Alto parts in Technion Choir's production of Haydn's "Creation", conducted by Harvey Brodowitz.

Software Projects

A Search Engine for Musical Patterns 2004-Present

*Northwestern University School of Music and
Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign*

- Developed, tested and evaluated a search engine for musical patterns
- Presented system at international conferences
- Descriptions of the system have been accepted as a dissertation, journal publication and included in conference proceedings
- Currently expanding the system to handle automatic similarity searches

Data Mining in Music 12/2002-Present

*Department of Computer Science, University of Chicago (course paper),
Northwestern School of Music (dissertation) and
Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign*

- Application of data mining techniques to music databases
- Retrieval of frequently-recurring musical patterns from a music database using sequence mining
- Retrieval of significant tonal relationships from a music database using association-rule analysis

Identifying Musical Style Using the N-gram model 6/2003

Course paper, Department of Computer Science, University of Chicago

- Distance assessment of test melodies from a learned musical style using the N-gram linguistic model

Musical Mode Classification using Support Vector Machines 6/2003

Course paper, Department of Computer Science, University of Chicago

- Classification of melodies as written in major or minor mode using machine learning SVM techniques

Group Size and the Voluntary Provision of Public Goods 9/2002

Professor Howard Margolis, Harris Graduate School of Public Policy Studies, University of Chicago

- Integrated spreadsheets with an external database to analyze Game Theory experiment results.

A System for Managing Diamond Trade 1999-2000

Israel Discount Bank, Tel Aviv, Israel

- Designed a system for the management of diamond inventory, international trade and credit monitoring for the Israel Discount Bank branch located in the Israeli Diamond Exchange.

A System for Credit Monitoring 1997

United Mizrahi Bank, Tel Aviv, Israel

- Designed a system for credit monitoring and financial reporting for the overseas branches of United Mizrahi Bank

A System for Monitoring Teacher Incentives 1996

Israeli Ministry of Education, Israel

- Designed a system for monitoring and disbursing incentives to teachers in selected sectors

A System for Tracking Customer Modifications 1994

Danya-Cebus construction company, Or Yehuda, Israel

- Designed a system for tracking customer requests for modifications in floor plans of newly purchased apartments.

Expert System for the Analysis of Musical Syntax in Israeli Folk Songs 12/1992

Course project, Department of Electrical Engineering, Technion – Israel Institute of Technology

- Developed a computer program which receives a melody as input and produces a harmonic accompaniment for that melody. The program was tested on a corpus of Israeli Folk Songs

A System for Tracking Tool Maintenance 12/1992

Elbit, Haifa, Israel

- Designed and implemented a scheduling system for the management and maintenance of electronic tools and machines

Expert System for the Analysis of Hebrew Language Syntax

Research assistantship to Professor Uzi Ornan, Technion – Israel Institute of Technology 1991

- Translated an Expert system which analyzes Hebrew language syntax, from Rexx to C language.

Music Performance

Vocalist in High Holidays Ensemble

8/2002-Present

North Suburban Synagogue Beth El, Highland Park, Illinois

- Perform liturgical music for the Jewish High Holidays
- Compositions by Sulzer, Weintraub, Naumbourg, Lewandowski, Wohl, Zilberts, Helfman, Janowski and other composers of Jewish liturgical music
- Conducted by Bernie Ebstein; Led by Cantor Larry Goller

Solo performances with piano accompaniment

1/1998-Present

Israel, United States and Canada

- Accompanied by Bart Berman and other pianists
- Repertoire includes contemporary music in Hebrew and English
- Compositions by George Gershwin, Andrew Lloyd Webber, Richard Rogers, Thelonious Monk, Mordecai Zeira, Shlomo Gronich, Naomi Shemer, Yoni Rechter and other contemporary composers

Duo performances with piano accompaniment

1/2006-2/2006

Evanston, Illinois

- Performed Jewish and Hebrew music in a piano-voice duo with Nini Castle

A Romance with Music

6/2004, 8/2005

Lutkin Hall, Northwestern University, Evanston, Illinois

Reba Early Learning Center, Evanston, Illinois

Tel Mond, Israel

- Performed with pianist Bart Berman a program for voice and piano
- The program included classical and contemporary music
- Broadcast on Chicago cable television

Improvisational Jazz

7/2003

Jericho Coffee, Chicago

- Participated in improvisational Jazz sessions before audience alongside guitarist Michael Reinhardt and drummer Ben Montgomery

Hemiola Women's Choir

1997-1998

Tel Aviv, Israel

- Choir member and soloist
- Performed Soprano and Mezzo Soprano parts
- Conducted by Rachel Cochavi Leventer

Tel Aviv Philharmonic Choir

1994-1997

Tel Aviv, Israel

- Choir member and soloist
- Performed Alto part
- Conducted by Aharon Harlap
- Participated in productions with the Israel Opera, Raanana Symphonette and Haifa Symphony Orchestra
- Selected productions: Mozart Mass in C Minor, Mozart Requiem, La Boheme, Nabucco
- Performed in Israel, Austria and Hungary

Gittit Choir

1988, 1992-1993, 1998

Haifa, Israel

- Performed Soprano and Alto parts
- Conducted by Shimon Ben Ami, Leonti Wolf and Ron Zarhi
- Participated in a concert tour of Germany in 1998

Music Training

Voice Training

Orna Arania <i>Northwestern University School of Music, Evanston, Illinois</i>	10/2001-5/2002
Agnes Messini <i>Tel Aviv, Israel</i>	9/2000-3/2001
Hadassa Ben-Haim <i>Tel Aviv, Israel</i>	1999-2000
Batsheva Zeisler <i>Rishon Letzion, Israel</i>	1997-1999
Helen Ryan <i>Toronto, Canada</i>	1985
Hedva Ben-Ami <i>Haifa, Israel</i>	1983

Workshops

Workshop for Soloists <i>Northwestern University School of Music, Evanston, Illinois</i> <ul style="list-style-type: none">➤ Led by Natasha Lyashenko➤ Solo and duet performance, with focus on musical theatre and opera	10/2001-5/2002
Choral Jazz Workshop <i>Zimriya Choral Convention, Jerusalem, Israel</i> <ul style="list-style-type: none">➤ Led by Harold Lenselek➤ Music by Cootie Williams, Thelonious Monk, Jon Hendricks	1998
English Music Workshop <i>Zimriya Choral Convention, Jerusalem, Israel</i> <ul style="list-style-type: none">➤ Led by Timothy Brown➤ Music by Britten, Purcell, Tavener	1995
Madrigal Workshop <i>Zimriya Choral Convention, Jerusalem, Israel</i> <ul style="list-style-type: none">➤ Led by Hermann Max➤ Madrigals and motets from the Renaissance and Early Baroque periods	1990