Curriculum Vitae

Contact information

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Teaching and research interests

 I am happy to teach both undergraduate and graduate level courses in the topics of theory, algorithms, data mining and machine learning. As well as teaching foundation courses in mathematics, such as combinatorics, probability, data structures, statistics. I also look forward to teaching other courses as the need arises.

 My research interests lie in the areas of algorithmic data mining and combinatorial optimization. I am especially interested in problems related to structural properties and reconstruction of data.

Professional Experience

Lecturer	**2017 - present**
Boston University, Boston, MA, USA.	
Undergraduate Program Director	**2017 - present**
Boston University, Boston, MA, USA.	
Research intern, **American Express**, New York, NY	**2013 Summer**
Hosts: Abhijit Bose and Huiming Qu	
Research intern, **Max Planck Institute for Informatics**, Saarbrücken, Germany	**2012 Summe r**
Hosts: Pauli Miettinen and Gerhard Weikum	
Researcher, **MTA SZTAKI**,Data Mining and Websearch Group, Budapest, Hungary	**2008 - 2009**

Education

Postdoctoral research associate in computer science	**2015 - 2016**
Brown University, Providence, RI, USA. **PI:** Ben Raphael	
PhD in computer science	**2010 - 2015**
Boston University, Boston, MA, USA., **Adviser:** Evimaria Terzi	

Thesis title: Centrality Measures and Analyzing Dot-product Graphs.

Diploma (equivalent to BSc + MSc) in pure mathematics   **2003 - 2008**

Eötvös Loránd University, Budapest, Hungary, **Adviser:** András Frank

Thesis title: Connection Between the Clar Number and the Coherent Cyclic Order.

Honors and awards

Research Excellence Award for outstanding research results.   **2013 - 2014**

Presented anually to at most two BU CS PhD students.

Hariri Award for Innovative Computing Models, Algorithms, and Systems   **April 2011**

Presidential Fellowship, Boston University   **2010 - 2011**

Presented every year to the most promising incoming student.

SIAM Student Travel Award for travel to SDM.   **2015**

NSF Student Travel Award for travel to ICDM.   **2012**

SIAM Student Travel Award for travel to SDM.   **2012**

Teaching experience

at Boston University

CS 330 Instructor *Introduction to Analysis of Algorithms*   **Spring, Fall 2017**

CS 591 Teaching Assistant *Algorithmic Techniques for Large Problems*   **Summer 2014**

For seniors and graduate students

CS 330 Teaching Assistant *Introduction to the Analysis of Algorithms*   **Fall 2012**

For juniors, seniors and graduate students.

MCS 109 Teaching Assistant *The Arts and Science of Quantitative Reasoning*   **Fall 2011**

For non-CS major undergraduates.

CS 101 Teaching Assistant *Introduction to Computer Science*   **Summer 2011**

For undergraduates.

at Eötvös University

Instructor *The Theory of Graphs and Algorithms*   **Fall 2007, Spring 2008, Fall 2009**

Discrete mathematics course for math majors.

Mentoring

Sanaz Bahargam (PhD student) data mining for education.	**2013 - present**
Marcin Swieczkowski (Senior student) class project on graph centrality.	**Spring 2014**
Feiyu Shi (MSc student) class project on load balancing network traffic.	**Spring 2014**

Publications

Refereed journal publications

J2. **Dóra Erdős**, András Frank, Krisztián Kun, *Sink-stable Sets of Digraphs*, SIAM journal of Discrete Mathematics **(SIDMA)**, vol. 28, Issue 4, pp. 1651 – 1674, 2014

J1. **Dóra Erdős**, Rainer Gemulla, Evimaria Terzi, *Reconstructing Graphs from Neighborhood Data*, ACM Transactions on Knowledge Discovery from Data **(TKDD)**, Volume 8 Issue 4, Article No. 23, ACM New York, NY, USA, August 2014

Refereed conference publications

C9. Sanaz Bahargam, **Dóra Erdős**, Azer Bestavros, Evimaria Terzi,*Personalized Education; Solving a Group Formation and Scheduling Problem for Educational Content*, Educational Data Mining **EDM** 2015, Madrid, Spain

C8. **Dóra Erdős**, Vatche Ishakian, Azer Bestavros, Evimaria Terzi, *A Divide-and-Conquer Algorithm for Betweenness Centrality*, SIAM Data Mining Conference, **SDM**, 2015, Vancouver, Canada

C7. **Dóra Erdős**, Pauli Miettinen, *Walk'N'Merge: A ScalableAlgorithm for Boolean Tensor Factorization*, IEEE International Conference on Data Mining, **(ICDM)**, 2013, Dallas, TX, December 2013

C6. **Dóra Erdős**, Pauli Miettinen, *Discovering Facts with Boolean Tensor Tucker Decomposition*, Conference on Information and Knowledge Management **(CIKM)**, San Francisco, CA, USA, October 2013

C5. **Dóra Erdős**, Vatche Ishakian, Azer Bestavros, Evimaria Terzi, *Repetition-Aware Content Placement in Navigational Networks*, ACM International Conference on Knowledge Discovery and Data Mining **(SIGKDD)**, Chicago, IL, USA, August, 2013

C4. **Dóra Erdős**, Rainer Gemulla, Evimaria Terzi, *Reconstructing Graphs from Neighborhood Data*, IEEE International Conference on Data Mining **(ICDM)** Brussels, Belgium, December 2012

C3. **Dóra Erdős**, Vatche Ishakian, Andrei Lapets, Evimaria Terzi, Azer Bestavros, *The Filter Placement Problem and its Application to Minimizing Information Multiplicity*, International Conference on Very Large DataBases **(VLDB)**, Istanbul, Turkey, August 2012

C2. Vatche Ishakian, **Dóra Erdős**, Evimaria Terzi, Azer Bestavros, *A Framework for the Evaluation and Management of Network Centrality*, SIAM Data Mining Conference **(SDM)**, Anaheim, CA, April, 2012

C1. **Dóra Erdős**, Zsolt Fekete, András Lukács, *Visualized subgraph search*, IEEE Visual Analytics Science and Technology **(VAST)**, Atlantic City, PA, USA, October, 2009

Preprints

> **P2.** **Dóra Erdős**, Vatche Ishakian, Azer Bestavros, and Evimaria Terzi, A Divide-and-Conquer Algorithm for Betweenness Centrality, arXiv:1406.4173

> **P1.** **Dóra Erdős**, Pauli Miettinen, Scalable Boolean Tensor Factorizations using Random Walks, arXiv:1310.4843

SERVICE

PC member: SIGKDD 2014, ECML/PKDD 2014 Nectar track, CIKM 2014, SDM 2015, SIGKDD 2015, CIKM 2015, SDM 2016, WWW 2016, SIGKDD 2016, ECML/PKDD 2016, CIKM 2016.

Journal reviewer: Mathematical Communications, Journal of Combinatorial Optimization, Data Mining and Knowledge Discovery, IEEE Big Data.

Organizer: seminar of the Data Management Group at Boston University   **2014-2015**

LANGUAGES

Hungarian (native), English (fluent), German (fluent), Dutch (good)