

Name: Dan Feldman

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CURRICULUM VITAE

1. Personal Details

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2. Higher Education

A. Post-Doctoral Studies

Period of Study	Name of Institution	Hosted by
August 2011 - Present	MIT, the Distributed Robotics Laboratory (DRL) of the Computer Science and Artificial Intelligence Department (CSAIL).	Prof. Daniela Rus, director of DRL and CSAIL
Jan 2010 - August 2011	California Institute of Technology (Caltech), at the Information Science and Technology division (IST).	Fellowship program of the Center for the Mathematics of Information (CMI)

B. Undergraduate and Graduate Studies

Period of Study	Name of Institution and Department	Degree	Supervisor	Thesis Title
1998-2002	Tel Aviv University,	B.Sc		
2002-2004	The Computer Science Department	M.Sc	Prof. Amos Fiat	Algorithms for the k -line mean
2004-2010		Ph.D	Prof. Micha Sharir and Amos Fiat	Coresets and their Applications

3. **Industrial Experience**

A. Languages & Methodologies:

C, C++, Java, SQL, Delphi, Design Patterns, UML, Matlab, Python, Visual Basic, Pascal

B. Software:

Microsoft's Cloud Numeric, Hadoop/Mahout, SAS, Oracle, Microsoft SQL Server, MySql, Access, R, SPSS

C. Consulting Services

Date	Company	Description
2010	Velingo	Text mining and internet search results mining
2009	Earnix	Classification of personalized prices for insurance companies
2008	SagMat	Data mining in financial applications

D. Employment

Date	Position	Company	Description
2009	Visiting Researcher	Yahoo! Research	Developing and implementation of coresets for PageRank and web-mining algorithms
2003-2004	Data-Mining Algorithms Developer	Hypatia	Business intelligence in the marketing and finance field
2001-2002	Pattern Recognition Algorithms Developer	Vision Sense	Noise removal from stereoscopic (3D) images of miniature camera
1999-2000	Data-Mining Algorithms Developer	Sagarmatha	Personalized coupons distribution via data mining
1997-1999	Software Engineer	Ness	Mapping Algorithms
1995-1997	Software Programmer	Gaya (Startup. Acquired by Efrat).	Databases engines for Insurance Companies

1995 - 1997	Software Engineer	Intelligence Corps Technological Center, Israel Defense Forces	Information retrieval and pattern recognition in images and audio data
1993- 1994	Database Administrator	Elbit	Hi-Tech Factory
1985- 1992	Freelancer	Oscar	Developing recommendation systems and their database engine for video libraries, and small businesses

4. **Publications**

A. **Accepted**

- **The Single Pixel GPS: Learning Big Data Signals from tiny Coresets**
Dan Feldman, Cynthia Sung, and Daniela Rus.
Advances in Geographic Information Systems (ACM SIGSPATIAL GIS) 2012
- **Trajectory Clustering for Motion Prediction,**
Cynthia Sung , Dan Feldman and Daniela Rus.
IEEE International Conference on Intelligent Robots and Systems (IROS) 2012
- **Communication Coverage for Independently Moving Robots,**
Stephanie Gil , Dan Feldman, and Daniela Rus.
IEEE International Conference on Intelligent Robots and Systems (IROS) 2012
- **Turning big data into tiny data:
Constant-size coresets for k-means, PCA and projective clustering**
Dan Feldman, Melanie Schmidt and Christian Sohler
ACM Symp. on Discrete Algorithms (SODA) 2013, to appear,
and the 4th Workshop on Massive Data Algorithms (MASSIVE) 2012.
- **An Effective Coreset Compression Algorithm for Large Scale Sensor Networks**
Dan Feldman, Andrew Sugaya and Daniela Rus.
ACM/IEEE Conf. on Information Processing in Sensor Networks (IPSN) 2012

- **Data Reduction for Weighted and Outlier-resistant Clustering**
Dan Feldman and Leonard J. Schulman.
ACM Symp. on Discrete Algorithms (SODA) 2012
- **Scalable Training of Mixture Models via Coresets**
Dan Feldman, Andreas Krause and Matthew Faulkner.
Neural Information Processing Systems (NIPS) 2011
- **A Unified Framework for Approximating and Clustering Data**
Dan Feldman and Michael Langberg.
ACM Symposium on Theory of Computing (STOC) 2011
- **From High Definition Image to Low Space Optimization**
Dan Feldman, Micha Feigin, and Nir Sochen.
Scale Space and Variational Methods in Computer Vision (SSVM) 2011.
- **Coresets and Sketches for High Dimensional Subspace Approximation,**
Dan Feldman, Morteza Monemizadeh, Christian Sohler and David Woodruff.
ACM Symp. on Discrete Algorithms (SODA) 2010
- **Private Coresets,**
Dan Feldman, Amos Fiat, Haim Kaplan and Kobbi Nissim.
ACM Symposium on Theory of Computing (STOC) 2009
- **A PTAS for k-Means Clustering Based on Weak Coresets,**
Dan Feldman, Morteza Monemizadeh and Christian Sohler,
ACM Symposium on Computational Geometry (SoCG) 2007
- **Bi-criteria Linear-time Approximations for Generalized k-Mean/Median/Center,**
Dan Feldman, Amos Fiat, Danny Segev and Micha Sharir,
ACM Symposium on Computational Geometry (SoCG) 2007
- **Coresets for Weighted Facilities and Their Applications,**
Dan Feldman, Amos Fiat and Micha Sharir.
IEEE Symposium on Foundations of Computer Science (FOCS) 2006

B. Submitted

- **Big Data for Robots: Online HMM Coresets for Sensor Streams,**
Cathy Wu, Dan Feldman, Brian Julian, Cynthia Sung, and Daniela Rus.
IEEE International Conference on Robotics and Automation (ICRA) 2013
- **K-Robots Clustering of Moving Sensors using Coresets,**
Dan Feldman, Stephanie Gil, Ross Knepper, Brian J. Julian, and Daniela Rus.
IEEE International Conference on Robotics and Automation (ICRA) 2013
- **My Long and Winding Road: From Big (GPS) Data to a Searchable Diary**
Dan Feldman, Cynthia Sung, and Daniela Rus.
ACM Special Interest Group on Information Retrieval (SIGIR) 2013
- **From High Definition Image to Low Space Optimization**
Dan Feldman, Micha Feigin, and Nir Sochen.
Journal of Mathematical Imaging and Vision (JMIV) 2013.

5. Patents

Filing Date	Company	Title	Co-Inventors
April 2012	MIT	An Effective Coreset Compression Algorithm for Large Scale Sensor Networks	Prof. Daniela Rus
March 2010	Small World LTD.	Enhancing advertising, and databases analysis using coreset implementations	Ofer Miranda

6. Students Supervised at MIT, Distributed Robotics Lab

Name of Student	Degree	Publications
Cynthia Sung	Ph.D	Co-author of 3 papers
Stephanie Gil	Ph.D	Co-author of 2 papers
Andrew Sugaya	Ms.c	Co-author of 1 paper
Cathy Wu	Ms.c	Co-author of 1 paper

7. Committees

- Program committee member in the 10th IEEE Workshop on *Managing Ubiquitous Communications and Services* (MUCS'13), part of PerCom 2013
- Program committee member in the 6th International Conference on *Advanced Engineering Computing and Applications in Sciences* (ADVCOMP 2012), part of NexTech 2012
- Member “Hack/reduce”, Boston’s Big Data hacker space

8. Invited Talks

Date	Place of Lecture	Name of Forum	Presentation
July 2012	Stanford University, California	MMDS’12: Workshop on Algorithms for Modern Massive Data Sets	Google Your Life: Learning Sensors Data
July 2012	Technical University of Dortmund, Germany	Workshop on Algorithms for Data Streams	From Big (GPS) Data to a Searchable text Diary
December 2009	Kanpur, India	WAPMDS’09. IITK workshop on algorithms for processing massive data sets.	Coresets for k -Means Clustering and Generalizations
November 2008	Tel-Aviv, Israel	Oracle’s Business Intelligence Day	Data Mining for Campaign Management

9. **Teaching**

Year	Name of Course	Type of Course	Role	No. of Students (all groups)
2009	Approximation Algorithms	For graduate students	Teacher	~30
2008-2009	Algorithms	Three days Marathon before exam. Invited by the student services center	Teacher	~70
2008-2009	Data Structures	Three days Marathon before exam. Invited by the student services center	Teacher	~100
2007-2009	Algorithms	Mandatory	Teacher Assistant	~70
2006-2009	Data Structures	Mandatory	Teacher Assistant	~100
2006	Discrete Math	Three days Marathon before exam. Invited by the student services center	Teacher	~120