Office 327, Kaplun Building, Tel-Aviv University, Tel-Aviv, Israel
+972-3-6409368
amberman@tauex.tau.ac.il
https://www.cs.tau.ac.il/~amberman/

Amit Haim Bermano

Personal Details

Birth date: 20.11.1980
Nationality: Israel
Marital status: married

Education & Research

Since 07.2016: Senior Lecturer (Assistant Professor)

The Blavatnik School of Computer Science, Tel-Aviv University
- Research interests include computer graphics, geometry processing, additive manufacturing, augmented reality, medical imaging and machine learning.

02.2016-07.2018: Post-Doctoral Researcher

Princeton Graphics Group, Department of Computer Science. Princeton University, Princeton, NJ
- Hosted by Prof. Szymon Rusinkiewicz and Prof. Thomas Funkhouser
- Focused on geometry processing and additive manufacturing

07.2015-01.2016: Post-Doctoral Researcher

Disney Research Zurich, Zurich
- Hosted by Prof. Dr. Markus Gross. Collaborated mainly with Dr. Anselm Grundhöfer
- Focused on real-time facial augmentation

06.2015: Research Internship

Tel-Aviv University, Tel-Aviv
- Worked with Prof. Daniel Cohen-Or
- Focused on shape analysis of large collections

07.2011 – 05.2015: Dr.Sc., Computer Science

ETH Zurich, Department of Computer Science, in collaboration with Disney Research Zurich
- Thesis: *Geometric Methods for Realistic Facial Animation of Faces*
- Responsibility for maintaining the lab's fabrication devices, including four 3D printers and laser cutter
- Advisor: Prof. Dr. Markus Gross
- Co-Examiners: Prof. Dr. Olga Sorkine-Hornung, Prof. Dr. Bernd Bickel

07.2010-09.2010: Research Internship

Disney Research Zurich, Zurich
- Worked with Prof. Wojciech Matusik and Dr. Ilya Baran
- Focused on appearance design for additive manufacturing

10.2008-06.2011: M.Sc., Computer Science

Technion – Israel Institute of Technology, Department of Computer Science
- Thesis: *Online Reconstruction of 3D Objects from Arbitrary Cross-Section Data*
- Advisor: Prof. Craig Gotsman
- GPA: 96.8%; Research grade: 95%

10.2003-10.2008: B.Sc., Computer Science

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Amit Haim Bermano

Technion – Israel Institute of Technology, Department of Computer Science
- Graduated *Summa Cum Laude*, GPA: 92.1%
- Two Semesters on President's List
- Two Semesters on Dean's List

Professional Experience

Instructor

Algorithms for Modeling, Fabrication and Printing of 3D Objects	Tel-Aviv University, Israel	WS 2018
Advanced Seminar in Computer Graphics	Tel-Aviv University, Israel	WS 2018

Co-Instructor

Computer Graphics	Princeton, USA	SS 2017

Teaching Assistant

Computer Graphics	Princeton, USA	SS 2018
Physically Based Simulation	ETH Zurich, Switzerland	FS 2011, 2012, 2013, 2014
Introduction to Computer Science for Mechanical Engineering	ETH Zurich, Switzerland	SS 2011, 2012, 2013, 2014
Computer Graphics 1	Technion, Israel	WS 2008, 2009
Combinatorics and Graph Theory	Technion, Israel	SS 2009,2010

Supervision

Dor Amran, M.Sc, Tel-Aviv University	10.2018-
Ofir Bar-Tal, M.Sc, Tel-Aviv University	10.2018-
Mattan Serry, M.Sc, Tel-Aviv University	10.2018-
Yotam Erel, M.Sc, Tel-Aviv University	02.2019-
Amir Barda, M.Sc, Tel-Aviv University	10.2019-
Danielle Sisserman, M.Sc, Tel-Aviv University	10.2019-
Ben Mamman, Ph.D, Tel-Aviv University	02.2019-
Rinon Gal, Ph.D, Tel-Aviv University	10.2019-

Co-Supervision

M.Sc Thesis, ETH Zürich: "*Explosion Simulation for Fireworks*" by Nicholas Pleschko	April 2014
M.Sc Thesis, ETH Zürich: "*Projection-Based Compensation of Complex Illumination Effects*" by Philipp Brüschweiler	September 2013

Amit Haim Bermano

Peer Review

- Committee:
    - SGP, 2019
    - CAD/Graphics, 2017
    - Shape Modeling International, 2016
    - SIGGRAPH Asia, Technical Briefs & Posters, 2017, 2018
    - Symposium on Computer Animation, 2016
- Tertiary:
    - UIST 2019
    - ACM SIGGRAPH, 2015, 2016, 2017, 2018
    - ACM SIGGRAPH Asia, 2013, 2015, 2016, 2018, 2019
    - Computer Graphics Forum, 2016
    - Computer Graphics International, 2013
    - Computer Graphics Theory and Applications, 2014
    - Computer & Graphics, 2017
    - Eurographics, 2013, 2015, 2017
- Grants:
    - ISF, 2019

Tutoring

- Physics 2, reinforcement course by the student body, Technion, Israel — August 2008
- Extensive tutoring
    - groups of 1-5 students
    - Various bachelor level courses in math, physics and computer science

02.2004 – 09.2008

Non – Academic

Geometrika, Israel
- Consultancy in the field of geometry processing
- Single handedly implemented and integrated an automatic mesh quadrangulation system

01.2011 – 06.2011

Intel, Intel development center, Haifa, Israel
- Design Automation engineer (internship) in the field of performance verification
    - Advanced circuit analysis
    - Extensive TCL and PERL programming in a Linux environment
    - Consultancy to circuit engineers

05.2004 – 08.2008

- Twice received highest ranking (***Outstanding*** - top 5%) in annual evaluations

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Amit Haim Bermano

<u>Israel Defense Force</u>, Israel   03.1999 – 05.2003
- Instructor of electronic airborne systems in the Israeli Air Force

Language Skills
- Hebrew   – Mother tongue
- English   – Proficient (level C2 on the European Language Scale)
- German   – Intermediate (level B1 on the European Language Scale)

List of Publications

(I)   Peer Review

1)   Tooncap: a layered deformable model for capturing poses from cartoon characters
*X. Fan, **A. H. Bermano**, V. G. Kim, J. Popović, S. Rusinkiewicz, 2018*
Proceedings of the Joint Symposium on Computational Aesthetics and Sketch-Based Interfaces and Modeling and Non-Photorealistic Animation and Rendering (p. 16). ACM.

2)   Learning A Stroke-Based Representation for Fonts
*E. Balashova, **A. H. Bermano**, V. G. Kim, S. DiVerdi, A. Hertzmann, T. Funkhouser, 2018*
To appear in Computer Graphics Forum

3)   State of the Art in Methods and Representations for Fabrication-Aware Design
***A. H. Bermano**, T. Funkhouser, S. Rusinkiewicz, 2017*
Computer Graphics Forum (Proc. Eurographics), 36, 2, 509–535.

4)   Makeup Lamps: Live Augmentation of Human Faces via Projections
***A. H. Bermano**, M. Billeter, D. Iwai, A. Grundhöfer, 2017*
Computer Graphics Forum (Proc. Eurographics), vol. 36, Wiley Online Library, 311–323.

5)   Structure-Oriented Networks of Shape Collections
*N. Fish, O. Van Kaick, **A. H. Bermano**, D. Cohen-Or, 2016*
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 35, 6, 171.

6)   Unfolding the 8-bit Era
*F. Zünd, P. Berard, A. Chapiro, S. Schmid, M. Ryffel, M. Gross, **A. H. Bermano**, R.W. Sumner*
Proceedings of the 12th European Conference on Visual Media Production, ACM, New York, NY, USA, CVMP '15, 9:1–9:10

7)   Detailed Spatio-Temporal Reconstruction of Eyelids
***A. H. Bermano**, T. Beeler, Y. Kozlov, D. Bradley, B. Bickel, M. Gross , 2015*
ACM Transactions On Graphics, (Proc. SIGGRAPH), 34, 4 (July), 44:1–44:11.

8)   Facial Performance Enhancement using Dynamic Shape Space Analysis

Amit Haim Bermano

A. H. Bermano, D. Bradley, T. Beeler, F. Zünd, D. Nowrouzezahrai, I. Baran, O. Sorkine-Hornung, H. Pfister, R.W. Sumner, B. Bickel, M. Gross, 2014
ACM Transactions On Graphics, 33, 2 (Apr.), 13:1–13:12.

9) Augmenting Physical Avatars using Projector-Based Illumination
A. H. Bermano, P. Brünschweiler, A. Grundhöfer, D. Iwai, B. Bickel, M. Gross, 2013
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 32, 6 (Nov.), 189:1–189:10.

10) ShadowPIX: Multiple Images from Self-Shadowing
A. H. Bermano, I. Baran, M. Alexa, W. Matusik, 2012
Computer Graphics Forum (Proc. Eurographics), vol. 31, Wiley Online Library, 593–602.

11) Online Reconstruction of 3D Objects from Arbitrary Cross-Sections
A. H. Bermano, A. Vaxman, C. Gotsman, 2011
ACM Transactions On Graphics, 30, 5 (Oct.), 113:1–113:11.

12) Single breathhold, three-dimensional measurement of left atrial volume and function using sparse CINE CMR imaging with iterative reconstruction
P. Monney*, O. Vardoulis*, D. Piccini, **A. H. Bermano**, A. Vaxman, C. Gotsman, J. Schwitter, M. O. Zenge, M. Schmidt,
M. S. Nadar, M. Stuber, N. Stergiopulos, J. Schwitter, 2015
Journal of Cardiovascular Magnetic Resonance, 17, 1, 47.

(II)   Theses

1)   Geometric Methods for Realistic Animation of Faces
A. H. Bermano
ETH Zürich Dr.Sc. Thesis, ETH Zurich, *Nr. 23032, 2015*

2)   Online Reconstruction of 3D Objects from Arbitrary Cross-Section Data
A. H. Bermano
M.Sc. Thesis, Technion – Israel Institute of Technology, *Nr. MSC-2011-01, 2011*

(III)   Books

1)   Design, Representations and Processing for Additive Manufacturing
M. Attene, M. Livesu, **A. H. Bermano**, T. Funkhouser, S. Rusinkiewicz, S. Lefebvre, S. Ellero, J. Martínez,
Morgan & Claypool Visual Computing Series. ISSN: 469-4223

(IV)   Patents

1)   Automatic Video Based Spatial Co-Registration of Head Mounted Probes in Motion (US Provisional Application Number 62739511, filed October 1, 2018)
*S. Jaffe-Dax, **A. H. Bermano**, L. L. Emberson*

Amit Haim Bermano

2) Projecting augmentation images onto moving objects (US20180190035A1, filed October 11, 2016)
*A. Gründhofer, **A. H. Bermano** (Original assignee: Disney Enterprises Inc.)*

3) Detailed spatio-temporal reconstruction of eyelids (US20170024907, filed July 24, 2015)
***A. H. Bermano**, T. Beeler, D. Bradley, B. Bickel, M. Gross, Y. Kozlov (Original assignee: Disney Enterprises Inc., ETH Zurich)*

4) Augmenting physical appearance using illumination (US20150154783, filed December 4, 2013)
*A. Gründhofer, **A. H. Bermano**, B. Bickel, P. Brüschweiler, M. Gross, D. Iwai (Original assignee: Disney Enterprises Inc.)*

(V)   Invited Talks

1) University of Konstanz, October 2018.
2) Tel-Aviv University, July 2015.

(VI)   Posters & Other Presentations

1) FNIRS 2018, Tokyo, Japan, 5-8 October, 2018
Automated Spatial Co-Registration Method from Simple video, presented as poster.

2) Ludicious - Zurich Game Festival, Zurich, Switzerland, 21-24 January, 2016
The developed gameplay, presented at (I.6), was deployed as a highlight and a tech talk was given.

3) SCMR/EuroCMR, Nice, France, 2-5 February, 2015
Online Single breathhold, three-dimensional measurement of left atrial volume and function using sparse CINE CMR imaging with iterative reconstruction (see I.12), presented as a poster