

## **Curriculum Vitae**

*Last updated 07.28.2023*

**IOANNIS STAMOS**

Professor, Computer Science Department, Hunter College of CUNY, 695 Park Avenue, Room 1008HN,  
New York, NY 10065

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<http://www.cs.hunter.cuny.edu/~ioannis>

## **RESEARCH INTERESTS**

Computer Vision & Graphics; Robotics; Three-Dimensional Modeling; Sensor Fusion; Range Segmentation  
& Registration; Detection & Classification Algorithms; Sensor Planning; Three-Dimensional Visualization.

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## **EDUCATION**

May 2001 PH.D., Columbia University, Computer Science Department (Advisor: Peter K. Allen).  
May 2000 M.PHIL., Columbia University, Computer Science Department.  
Feb. 1997 M.S., Columbia University, Computer Science Department.  
Nov. 1994 Diploma of Engineering, University of Patras, Department of Computer  
Engineering and Informatics, Patras, Greece (Thesis Advisor: George Moustakides).

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## EXPERIENCE

- 09/2011 - Present Professor, Hunter College of the City University of New York, Computer Science Department, New York, NY.
- 01/2022 - 06/2022 Acting Chair, Hunter College of the City University of New York, Computer Science Department, New York, NY.
- 08/2022 - Present Computer Vision Consultant (Automated Mapping), Woven by Toyota, Brooklyn, NY.
- 09/2017 - 08/2022 Computer Vision Consultant, CARMERA, Brooklyn, NY.
- 11/2013 - 06/2014 Visiting Faculty, Google Inc., Mountain View, CA.
- 01/2006 - 08/2011 Associate Professor, Hunter College of the City University of New York, Computer Science Department, New York, NY.
- 09/2001 - 12/2005 Assistant Professor, Hunter College of the City University of New York, Computer Science Department, New York, NY.
- 09/2001 - Present Member of the Doctoral Faculty, Graduate Center of the City University of New York, Department of Computer Science, New York, NY.
- 09/2002 - 05/2003 Deputy Executive Officer, Graduate Center of the City University of New York, PhD Program of Computer Science, New York, NY.
- 09/1995 - 05/2001 Graduate Research Assistant, Columbia University, Computer Science Department, Robotics Lab, New York, NY.
- 06/2000 - 08/2000 Summer Intern, Siemens Corporate Research, Princeton, NJ.
- 11/1994 - 06/1995 Research Scientist, Catholic University of Leuven (Leuven, Belgium) and Computer Technology Institute (Patras, Greece).

## HONORS AND AWARDS

- 2017 Google Research Award.
- 2015 Google Research Award.
- 2010 NSF-sponsored research highlighted at the annual report of the Research Foundation, City University of New York (across all campuses).
- 2007 Google Research Award.
- 2003 NSF Faculty Early Career Development Award (CAREER).
- 2003 Feliks Gross Endowment Award, CUNY Academy for the Humanities and Sciences.
- 2000 Outstanding Teaching Assistant Award, School of Engineering and Applied Sciences, Columbia University, New York, NY.
- 1995-2001 Graduate Research Assistant: Full Scholarship, Robotics Laboratory, Computer Science Department, Columbia University, New York, NY.
- 1995-2000 Scholarship for graduate studies, Institution of Ioannis S. Latsis, Greece.
- 1994 Graduated ranking first, class of November 1994, Engineering School, University of Patras, Greece.
- 1989-1991 Scholarship for undergraduate studies, Institution of Scholarships of the Greek State.
- 1989-1994 Scholarship for undergraduate studies, Institution of Ioannis S. Latsis, Greece.
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## SYNERGISTIC ACTIVITIES

- 2016 - Present Associate Editor, Journal of Computer Vision and Image Understanding (CVIU)
- 2002 - Present Panelist and Reviewer, National Science Foundation
- 2000 - Present Reviewer for most major computer vision, robotics and graphics journals and conferences, such as: *CVPR*, *International Journal of Computer Vision*, *Journal of Computer Vision and Image Understanding*, *ACM SIGGRAPH*, *International Journal of Robotics and Automation*, *IEEE Transactions on PAMI*.
- 2019 Area Chair, International Conference in 3D Vision (3DV), Quebec City, Canada
- 2015 Guest Editor, CVIU Special Issue on Large-Scale 3D Modeling of Urban Indoor or Outdoor Scenes from Images and Range Scans
- 2013 Program co-Chair, International Conference on 3D Vision (3DV), University of Washington, Seattle

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## EXTERNAL RESEARCH GRANTS

Total funding (2003-): \$1,700,000+.

- 2017-2020 *Classification of urban objects in 3D point clouds*,  
I. Stamos (PI),  
Google Research Award (\$47,550)
- 2016-2019 *MRI: Acquisition of mobile robots to support indoor navigation and online 3D object detection*,  
I. Stamos (PI), S. Epsten, O. Hadjiliadis (Co-PIs),  
National Science Foundation, CNS \$100,450 (\$43,050 Hunter's co-share).
- 2015-2016 *Classification of vehicles in points clouds of urban scenes*, I. Stamos (PI), O. Hadjiliadis (Co-PI),  
Google Research Award, \$44,500.
- 2009-2013 *RI: Small: Modeling Cities by Integrating 3D and 2D Data*, I. Stamos (PI),  
National Science Foundation, Robust Intelligence of Information & Intelligent Systems  
(IIS-0915971), \$474,963.
- 2009-2013 *MSC: Sequential Classification and Detection via Markov Models in Point Clouds of Urban Scenes*,  
I. Stamos (PI), O. Hadjiliadis (Co-PI),  
National Science Foundation, Computing and Communication Foundations  
(CCF-0916452), \$379,998 + \$24,000 (REU supplements).
- 2008-2011 *MRI: Acquisition of Range-Scanning and Rapid Prototyping Equipment for 3D Urban Modeling*,  
I. Stamos (PI),  
National Science Foundation, Major Research Instrumentation (MRI),  
Computer and Network Systems (CNS-0821384),  
\$99,500 (NSF) + \$42,856 (Hunter's co-share) + \$12,000 (REU Supplement).
- 2007-2008 *Urban Modeling Project*, G. Wolberg (PI), I. Stamos (Co-PI),  
Google Inc. Gift, \$50,000.
- 2003-2009 *CAREER: Photorealistic 3-D Modeling of Large-Scale Scenes: Integration of 3-D Range  
and 2-D Intensity Sensing in a Complete System*,  
I. Stamos (PI),  
National Science Foundation Faculty Early Career Development Award (CAREER),  
Information & Intelligent Systems (IIS-0237878), \$404,247 + \$22,800 (REU Supplements).
- 2002-2004 *MRI/RUI: Acquisition of Range-Scanning Equipment and of Data Servers  
for the Reconstruction of Large-Scale Scenes from 3D Range and 2D Color Data*,  
I. Stamos (PI), C. Ehlschlaeger (Co-PI),  
National Science Foundation, Major Research Instrumentation (MRI)  
(EIA-0215962), \$159,307.
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## PATENTS

Google, Systems and Methods for Detecting and Modeling Curb Curves in Complex Urban Scenes, "US14/551,502", Arthur Pope & Ioannis Stamos, Granted 2018.

Available at

<http://www.cs.hunter.cuny.edu/~ioannis/publications.html>

Total Citations: 2700+ (Google Scholar)

h-index: 24 (number of papers with h or more citations)

i10-index: 37 (number of papers with at least 10 citations)

### Peer-Reviewed Publications

1. Z. Li and **I. Stamos**, 2023, Depth-based 6DoF Object Pose Estimation using Swin Transformer, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Detroit MI, October 1-5, 2023,
2. X. Shen and **I. Stamos**, 2022, Unified Object Detector for Different Modalities Based on Vision Transformers, *Electronics* 2023, 12, 2571, <https://doi.org/10.3390/electronics12122571>.
3. X. Shen and **I. Stamos**, 2021, 3D Object Detection and Instance Segmentation from 3D Range and 2D Color Images, *Sensors*, Vol. 21, No. 4
4. X. Shen and **I. Stamos**, 2020, Frustum VoxNet for 3D object detection from RGB-D or Depth images, *IEEE 2020 Winter Conference on Applications of Computer Vision (WACV '20)*.
5. J. Liu, E. Psarakis, Y. Feng, and **I. Stamos**, 2018, A Kronecker Product Model for Repeated Pattern Detection on 2D Urban Images, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 21, Issue 9, pp. 2266–2272. [impact factor: 8.329]
6. T. Flynn, O. Hadjiliadis, **I. Stamos** and F. J. Vazquez-Abad, Data Driven Stochastic Approximation for Change Detection, Dec. 3-6 2017, Winter Simulation Conference, Las Vegas, NV.
7. A. Zelener and **I. Stamos**, 2016, CNN-based Object Segmentation in Urban LIDAR With Missing Points, *2016 International Conference on 3D Vision (3DV 2016)*, October 25 - 28 2016, Stanford University, CA.
8. T. Flynn, O. Hadjiliadis and **I. Stamos**, 2015, Online classification in 3D urban datasets based on hierarchical detection, *2015 International Conference on 3D Vision (3DV 2015)*, Lyon, France.
9. A. Zelener, P. Mordohai and **I. Stamos**, 2014, Classification of Vehicle Parts in Unstructured 3D Point Clouds, *2014 International Conference on 3D Vision (3DV 2014)*, University of Tokyo, Tokyo, Japan.
10. M. Carlisle, O. Hadjiliadis and **I. Stamos**, 2014, Trends and trades, Handbook of high-frequency trading and modeling in finance. Editors: F. Viens, M. C. Mariani and I. Florescu, Publisher: John Wiley and Sons.
11. J. Liu, E. Psarakis and **I. Stamos**, 2013, Automatic Kronecker product model based detection of repeated patterns in 2D urban images, *International Conference on Computer Vision*, Sidney Australia (accepted for publication – 25% acceptance rate, 1600 submissions).
12. S. Friedman and **I. Stamos**, 2013, Automatic Procedural Modeling of Tree Structures in Point Clouds Using Wavelets , *2013 International Conference on 3D Vision (3DV 2013)*, University of Washington, Seattle.
13. S. Friedman and **I. Stamos**, 2013, Online Detection of Repeated Structures in Point Clouds of Urban Scenes for Compression and Registration, *International Journal of Computer Vision* (Special Issue: 3D Imaging, Processing and Modeling), Vol. 102, Issue 1-3, pp 112–128.

14. A. Mesolongitis and **I. Stamos**, 2012, Detection of Windows in Point Clouds of Urban Scenes, Point Cloud Processing in Computer Vision at *IEEE International Conference of Computer Vision and Pattern Recognition*, Providence RI, pp. 17-24,
15. **I. Stamos**, O. Hadjiliadis, H. Zhang and T. Flynn, 2012, Online algorithms for classification of urban objects in 3D point clouds, *The second 3DIMPVT (3D Imaging, Modeling, Procession, Visualization and Transmission) Conference*, ETH, Zürich, Oct. 13–15.
16. S. Friedman and **I. Stamos**, 2012, Online Facade Reconstruction from Dominant Frequencies in Structured Point Clouds, Point Cloud Processing in Computer Vision at *IEEE International Conference of Computer Vision and Pattern Recognition*, Providence RI, pp. 1–8.
17. L. Liu and **I. Stamos**, 2012, A systematic approach for 2D-image to 3D-range registration in urban environments, *Computer Vision and Image Understanding, Special Issue on Virtual Representations and Modeling of Large-scale Environments (VRML)*, Vol. 116, No. 1, pp. 25-37.
18. S. Friedman and **I. Stamos**, 2011, Real Time Detection of Repeated Structures in Point Clouds of Urban Scenes, *The First Joint 3DIM/3DPVT (3DIMPVT) Conference*, Hangzhou, China, May 16-19.
19. O. Hadjiliadis and **I. Stamos**, 2010, Sequential Classification in Point Clouds of Urban Scenes, *Fifth International Symposium on 3D Data Processing, Visualization and Transmission*, Paris, France.
20. O. Hadjiliadis, G. Hernandez-del-Valle and **I. Stamos**, 2009, A comparison of 2-CUSUM stopping rules for quickest detection of two-sided alternatives through the derivation of the mean of a general 2-CUSUM, *Journal of Sequential Analysis*, Vol. 28, No. 1, pp. 92-114.
21. **I. Stamos**, L. Liu, C. Chao, G. Wolberg, G. Yu and S. Zokai, 2008, Integrating Automated Range Registration with Multiview Geometry for the Photorealistic Modeling of Large-Scale Scenes, *International Journal of Computer Vision [Special Issue]*, Vol. 78, No. 2-3, pp. 237-260.
22. G. Yu, M. Grossberg, G. Wolberg and **I. Stamos**, 2008, Think Globally, Cluster Locally: A Unified Framework for Range Segmentation, *Fourth International Symposium on 3D Data Processing, Visualization and Transmission*.
23. L. Liu and **I. Stamos**, 2007, A systematic approach for 2D-image to 3D-range registration in urban environments, *Visual Representation and Modeling of Large-Scale Environments (VRML) Workshop, 11th International Conference on Computer Vision*, pp. 1-8.
24. C. Chen and **I. Stamos**, 2007, Range Image Segmentation for Modeling and Object Detection in Urban Scenes, *The 6th International Conference on 3-D Digital Imaging and Modeling*, pp. 185-192.
25. L. Liu, **I. Stamos**, G. Yu, G. Wolberg and S. Zokai, 2006, Multiview Geometry for Texture Mapping 2D Images Onto 3D Range Data, *IEEE International Conference of Computer Vision and Pattern Recognition*, Vol. II, pp. 2293–2300.
26. C. Chen and **I. Stamos**, 2006, Range Image Registration Based on Circular Features, *3rd International Symposium on 3D Data Processing, Visualization & Transmission*, pp. 543-550.
27. **I. Stamos**, G. Yu, G. Wolberg and S. Zokai, 2006, 3D Modeling Using Planar Segments And Mesh Elements, *3rd International Symposium on 3D Data Processing, Visualization & Transmission*, pp. 599-606.
28. C. Chen and **I. Stamos**, 2005, Semi-automatic range to range registration: a feature-based method, *The 5th International Conference on 3-D Digital Imaging and Modeling*, pp. 254-261.
29. L. Liu and **I. Stamos**, 2005, Automatic 3D to 2D Registration for the Photorealistic Rendering of Urban Scenes, *IEEE International Conference on Computer Vision and Pattern Recognition*, Vol. II, pp. 137-143.

30. **I. Stamos** and M. Leordeanu, 2004, Efficient Model Creation of Large Structures based on Range Segmentation, *2nd International Symposium on 3D Data Processing, Visualization & Transmission*, pp. 447-454.
31. P. K. Allen, **I. Stamos**, M. Leordeanu, A. Troccoli, B. Smith and S. Murray, 2003, New Methods for Digital Modeling of Historic Sites Using Range and Image Data, *IEEE Computer Graphics & Applications, Special Issue on 3D Reconstruction and Visualization of Large Scale Environments*, Vol. 23, No. 6, pp. 32-41.
32. **I. Stamos** and M. Leordeanu, 2003, Automated Feature-Based Range Registration of Urban Scenes of Large Scale, *IEEE International Conference of Computer Vision and Pattern Recognition*, Vol. II, pp. 555-561.
33. P. K. Allen, **I. Stamos**, A. Troccoli, B. Smith, M. Leordeanu and Y. C. Hsu, 2003, 3D Modeling of Historic Sites using Range and Image Data, *International Conference of Robotics and Automation*, pp. 145-150.
34. P. K. Allen, A. Troccoli, B. Smith, **I. Stamos**, and S. Murray, 2003, The Beauvais Cathedral Project, *Workshop on Applications of Computer Vision in Archeology, IEEE International Conference of Computer Vision and Pattern Recognition*, pp. 10-15.
35. **I. Stamos** and P. K. Allen, 2003, Automatic Geometric Registration of Dense Range Scans for 3D Site Modeling, *DIMACS Workshop on Surface Reconstruction* [Abstract].
36. **I. Stamos** and P. K. Allen, 2002, Geometry and Texture Recovery of Scenes of Large Scale, *Journal of Computer Vision and Image Understanding*, Vol. 88, No. 2, pp. 94-118.
37. **I. Stamos**, 2002, Photorealistic 3D Modeling of Architecturally Complex Environments, *International Conference on Imaging Science, Systems, and Technology*, pp. 92-98.
38. **I. Stamos** and P. K. Allen, 2001, Automatic Registration of 3-D with 2-D Imagery in Urban Environments, *International Conference on Computer Vision*, pp. 731-736.
39. P. K. Allen, **I. Stamos**, A. Georgiev, E. Gold and P. Blaer, 2001, AVENUE: Automated Site Modeling in Urban Environments, *Third International Conference on 3D Digital Imaging and Modeling*, pp. 357-364.
40. **I. Stamos** and P. K. Allen, 2000, 3-D Model Construction Using Range and Image Data, *IEEE International Conference on Computer Vision and Pattern Recognition*, Vol. I, pp. 531-536.
41. **I. Stamos** and P. K. Allen, 2000, Integration of Range and Image Sensing for Photorealistic 3D Modeling, *International Conference on Robotics and Automation*, pp. 1435-1440.
42. **I. Stamos** and P. K. Allen, 1998, Interactive Sensor Planning, *IEEE International Conference on Computer Vision and Pattern Recognition*, pp. 489-494.
43. P. K. Allen, M. K. Reed and **I. Stamos**, 1998, View Planning for Site Modeling, *DARPA Image Understanding Workshop*, pp. 1181-1192.
44. M. K. Reed, P. K. Allen and **I. Stamos**, 1997, Automated Model Acquisition using Volumes of Occlusion, *IEEE International Conference on Computer Vision and Pattern Recognition*, pp. 72-77.
45. M. K. Reed, P. K. Allen and **I. Stamos**, 1997, 3-D Modeling from Range Imagery: An Incremental Method with a Planning Component, *International Conference on Recent Advances in 3D Imaging and Modeling*, pp. 76-84.

### Other Publications

32. **I. Stamos**, 2010, Automated Registration of 3D-range with 2D-color Images: An Overview, *44th Annual Conference on Information Sciences and Systems, 3D Data Acquisition and Analysis Session, Princeton University*, pp. 1-6 [Invited].

33. **I. Stamos**, 2009, Challenges in Automated 3D Modeling of Urban Environments, *3rd International Workshop (3D Arch 2009)*, [International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences], Vol. XXXVII-5/W1, pp. 1-5 [Invited].

### Theses

34. **I. Stamos**, 2001, Geometry and Texture Recovery of Scenes of Large Scale: Integration of Range and Intensity Sensing, *PhD Thesis, Columbia University*.
35. **I. Stamos**, 1994, Motion Computation from a Sequence of Images, *Diploma Thesis, University of Patras*.

### POPULAR PRESS

*Cybersleuths Take On the Mystery of the Collapsing Colossus*, New York Times, October 27, 2001  
<https://tinyurl.com/y3p4ncu7>

Participated in the project described above regarding the reconstruction of the 3D model of the endangered Cathedral of St. Pierre in Beauvais, France.

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### SOME INVITED TALKS

- 2016 CNN-based Object Segmentation in Urban LIDAR With Missing, Google Inc. (Streetview), Mountain View, CA.
- 2016 Parsing 3D urban scenes, Graduate Center of CUNY, NY.
- 2014 Reconstruction, online classification and repetition detection from range data in urban scenes, Google Inc., Mountain View, CA.
- 2014 Reconstruction, online classification and repetition detection from range data in urban scenes, Nvidia Corporation, Santa Clara, CA (March 14).
- 2013 Reconstruction, online classification and repetition detection from range data in urban scenes, University of California Santa Barbara (UCSB), Computer Science Colloquium (October 16).
- 2012 Registration, detection and classification of urban structures in 3D point clouds, **Keynote** presentation at the 3D GeoInfo Conference, Québec City (May 16-17).
- 2009 Challenges in automated 3D modeling of urban environments, **Keynote** presentation at the 3D Virtual Reconstruction and Visualization of Complex Architectures conference, Trento, Italy (25-28 February).
- 2006 3D Photography: Reconstructing Photorealistic 3D Models of Large-Scale Scenes, Carnegie Mellon University, Robotics Institute, VASC Seminar Series (April 17).
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### COURSES TAUGHT

- CSc 74030: Computer Vision & Image Processing  
Fall 2016, Graduate Center (Aver. enrollment 10).



- CSCI 493.69 Computational Vision  
Spring 2002/2004/2013/2022 and Fall 2008/2010/2014/2015/2016/2017/2018 Hunter College (Aver. enrollment 25)
  - CSCI 335, Software Design and Analysis III (in C++) (i.e. Advanced Data Structures and Algorithms)  
Fall 2009/2011/2012/2015/2016/2017/2018/2021, Spring 2011/2012/2013/2015/2016/2017/2018/2019, Hunter College (Aver. enrollment 30 up to 2018 – 65 2019 – 200 currently)
  - CSCI 235, Software Design and Analysis II (in C++) (i.e. Introduction to Data Structures)  
Fall 2001/2006/2008/2009/2014, Spring 2006/2009, Hunter College (Aver. enrollment 30)
  - CSC 83020, Advanced Algorithms in 3D Computer Vision  
Fall 2011, Graduate Center (Aver. enrollment 10)
  - CSC 83020, 3D Photography  
Fall 2002/2003, Spring 2009/2010/2011/2015/2016/2017, Graduate Center (Aver. enrollment 10)
  - CSC 83020, 3D Computer Vision  
Spring 2007/Fall 2012, Graduate Center (Aver. enrollment 12)
  - CSC 83010, Topics in Computer Graphics: 3D Photography  
Spring 2005/2006, Graduate Center (Aver. enrollment 8) item W3137, Data Structures and Algorithms (in JAVA)  
Spring 2001, Columbia University (Aver. enrollment 100)
  - CSCI 365, Computer Theory II  
Spring 2005, Hunter College (Aver. enrollment 30)
  - CSCI 265, Computer Theory I  
Fall 2004/2005, Hunter College (Aver. enrollment 30)
  - CSCI 150, Discrete Structures  
Fall 2002/2003, Spring 2003/2004, Hunter College (Aver. enrollment 30)
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## CURRENT PHD STUDENTS (ADVISOR)

- Zhuzhun Li, Graduate Center of CUNY.
  - Yimeng Guo, Graduate Center of CUNY.
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## FORMER PHD STUDENTS (ADVISOR)

- Jimmy (Xiaoke) Shen, Graduate Center of CUNY, Thesis (2020): *3D Object Detection, Instance Segmentation and Classification from 3D Range and 2D Color Images*, Currently at SenseBrain.
- Allan Zelener, Graduate Center of CUNY, Thesis (2017): *Object Localization, Segmentation, and Classification in 3D Images*, Currently at Zoox Inc.
- Juan Liu, Graduate Center of CUNY, Thesis (2014): *Repeated Structure Detection in 2D urban images*. Currently at Google, New York, NY.

- Sam Friedman (Graduate Center of CUNY, Thesis (2013): *Discovering Regularity in Point Clouds of Urban Scenes*.  
Currently at Broad Institute, Cambridge, MA (was at Apple, Cupertino, CA).
  - Adriana Wise, Graduate Center of CUNY , Thesis (2013): *Surface Model Simplification with Application to Unorganized Scanned Data*.  
Currently lecturer at private college.
  - Lingyun Liu (Graduate Center of CUNY, Thesis (2007): *Automated Registration of 2D Images with 3D Range Data in a Photorealistic Modeling System of Urban Scenes*.  
Currently at Google, Mountain View, CA.
  - Cecilia Chao Chen (Graduate Center of CUNY, Thesis (2007): *Range Segmentation and Registration for 3D Modeling of Large Scale Urban Scenes*.  
Currently at Google, New York, NY.
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