Leonidas J. Guibas

Computer Science Department Stanford University Stanford, CA 94305

1. Professional preparation

- California Institute of Technology. Pasadena, CA. B.S. and M.S. in Mathematics, 1971
- Stanford University, Stanford, CA. Ph.D. in Computer Science, 1976

2. Professional appointments

- *Xerox Palo Alto Research Center*, Palo Alto, CA. Computer Science Laboratory. Member of the Research Staff, 1973–1982. Principal Scientist, 1982–1984.
- Systems Research Center, Digital Equipment Corporation, Palo Alto, CA. Principal Scientist, 1984–1988. Senior Consultant Engineer, 1988–1993.
- Massachusetts Institute of Technology, Cambridge, MA. Professor of Computer Science and Engineering, 1989–1991.
- *Stanford University*, Stanford, CA. Professor of Computer Science, since 1984. Professor of Electrical Engineering (by courtesy), since 2007. Paul Pigott Professor in the School of Engineering, since 2009.

Professor Guibas has also held short term or visiting positions at University of Patras, Greece (1988), University of Athens, Greece (1995), National University of Singapore (1998, 2006), Athens Information Technology Institute, Greece (2004), National Institute of Informatics, Tokyo (2006), Swiss Federal Institute of Technology (ETH), Zürich (2008), Google (2011-12).

3. Products/publications

FIVE PUBLICATIONS MOST CLOSELY RELATED TO THE PROPOSED RESEARCH:

- 1. Joint-shape segmentation with linear programming. Qixing Huang, Vladlen Koltun, and Leonidas Guibas. ACM Transactions on Graphics (Siggraph Asia 2011), **30**(6), 2011.
- 2. *Map-based exploration of intrinsic shape differences and variability.* Raif Rustamov, Maks Ovsjanikov, Omri Azencot, Mirela Ben-Chen, Frederic Chazal, and Leonidas Guibas. *ACM Transactions on Graphics (Siggraph 2013)*, **32**(4), 2013.
- 3. Consistent shape maps via semidefinite programming. Qixing Huang and Leonidas Guibas. Computer Graphics Forum (Eurographics Symposium on Geometry Processing), **32**(5), 2013.
- 4. *Human-centric shape analysis*. Vladimir Kim, Siddhartha Chaudhuri, Leonidas Guibas, and Thomas Funkhouser. *ACM Transactions on Graphics (Siggraph 2014)*, **33**(4), 2014.
- 5. Functional map networks for analyzing and exploring large shape collections. Qixing Huang, Fan Wang, Leonidas Guibas. ACM Transactions on Graphics (Siggraph 2014), **33**(4), 2014.

FIVE OTHER RELATED PUBLICATIONS:

6. *Partial and approximate symmetry detection for 3D geometry*. Niloy Mitra, Leonidas Guibas, Mark Pauly. *ACM Transactions on Graphics (Siggraph 2006)*, **25**(4), 2006.

- 7. A concise and provably informative multi-scale signature based on heat diffusion. Jian Sun, Maks Ovsjanikov, and Leonidas Guibas. *Computer Graphics Forum*, **28**(5), pp. 1383-1392, July 2009.
- 8. An optimization approach for extracting and encoding consistent maps in a shape collection. Qixing Huang, Guoxin Zhang, Lin Gao, Shimin Hu, Adrian Bustcher, and Leonidas Guibas. ACM Transactions on Graphics (Siggraph Asia 2012), **31**(6), 2012.
- 9. *Fine-grained semi-supervised labeling of large shape collections*. Qixing Huang, Hao Su, and Leonidas Guibas. *ACM Transactions on Graphics (Siggraph Asia 2013)*, **32**(6), 2013.
- 10. *Estimating image depth using shape collections*. Hao Su, Qixing Huang, Niloy Mitra, Yangyan Li, and Leonidas Guibas. *ACM Transactions on Graphics (Siggraph 2014)*, **33**(4), 2014.

4. Synergistic activities

- Organized a series of annual computational geometry workshops at DEC/SRC in the period 1984–93 during which several of the key results in the field were formulated and proven.
- At Stanford organized activities to foster interaction between the areas of applied mathematics, computer graphics, computational geometry, robotics, and computer vision; these included joint curriculum development, joint qualifying examinations, and various seminar series.
- Visited and lectured in less well developed nations about computer science research and education.
- Has been a consultant for many years to high technology companies in computer graphics, geometric modeling, computational biology, and sensor networks.

5. Collaborators, postdocs, students, etc.

PI Guibas has advised 28 postdoctoral fellows and 39 Ph.D. students. Over his career, he has had more than 85 collaborators.

RECENT COLLABORATIONS WITH PAST PH.D. STUDENTS AND POST-DOCTORAL ASSOCIATES (28):

Adrian Butscher (Autodesk), Mirela Ben-Chen (Technion), Daniel Chen (Google), Jie Gao (Stonybrook), Omprakash Gnawali (U. Houston), Kyle Heath (Bay Sensors), Jonathan Huang (Google Research), Qixing Huang (TTI), Vangelis Kalogerakis (Amherst), Michael Kerber (Max Planck), Vladimit Kim (Adobe), Youngmin Kim (KIST, Korea), Branislav Kusy (CSIRO), Niloy Mitra (UCL), Dmitriy Morozov (LBL), Arik Motskin (Google), Steve Oudot (INRIA), Maks Ovsjanikov (Ecole Polytechnique), Raif Rustamov (AT&T Bell Labs), Primoz Skraba (Lubliana), Sharath Sharathkumar (Virginia Tech), Justin Solomon (MIT), Jian Sun (Tsinghua), Yuan Yao (Peking U.), Michael Wand (Utrecht), Fan Wang (Apple), Yusu Wang (Ohio State), Martin Wicke (OtherLabs).

RECENT COLLABORATIONS WITH OTHER SENIOR PERSONNEL (16):

Pankaj Agarwal (Duke), Gunnar Carlsson (Stanford), Frédéric Chazal (INRIA) Markus Gross (ETH), Vladlen Koltun (Adobe), Hao Li (USC), Facundo Mémoli (Ohio State), Quentin Mérigot (CNRS, France), Vijay Pande (Stanford), Mark Pauly (EPFL), Helmut Pottmann (T.U. Vienna), Hans-Peter Seidel (Max Planck), Subhash Suri (UC Sanata Barbara), Carlo Tomasi (Duke), Yinyu Ye (Stanford), Lin Zhang (Tsinghua).

PH.D. THESIS ADVISOR:

Donald Knuth (Stanford).