Manolis Savva

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Education

Stanford University
Ph.D. in Computer Science, advised by Pat Hanrahan
Expected completion date: August 2016

Stanford University
MS in Computer Science
Conferred December 2012

Cornell University
B.A. in Physics and Computer Science
Conferred December 2009

Research Interests

Human-centric 3D scene analysis · 3D scene modeling interfaces · Data visualization · Spatial cognition and linguistics

Publications

ShapeNet: An Information-Rich 3D Model Repository
Angel X. Chang, Thomas Funkhouser, Leonidas Guibas, Pat Hanrahan, Qixing Huang, Zimo Li, Silvio Savarese, Manolis Savva, Shuran Song, Hao Su, Jianxiong Xiao, Li Yi, and Fisher Yu
arXiv:1512.03012 [cs.GR], Dec 2015

Activity-centric Scene Synthesis for Functional 3D Scene Modeling
Matthew Fisher, Manolis Savva, Yangyan Li, Pat Hanrahan, and Matthias Nießner
Proceedings of ACM SIGGRAPH Asia 2015

Semantically-Enriched 3D Models for Common-sense Knowledge
Manolis Savva, Angel X. Chang, and Pat Hanrahan
CVPR 2015 Vision meets Cognition Workshop

Text to 3D Scene Generation with Rich Lexical Grounding
Angel X. Chang, Will Monroe, Manolis Savva, Christopher Potts, and Christopher D. Manning
Proceedings of ACL 2015

SceneGrok: Inferring Action Maps in 3D environments
Manolis Savva, Angel X. Chang, Pat Hanrahan, Matthew Fisher, and Matthias Nießner
Proceedings of ACM SIGGRAPH Asia 2014

Learning Affordance Maps by Observing Interactions
Manolis Savva, Angel X. Chang, Matthew Fisher, Matthias Nießner, and Pat Hanrahan
CVPR 2014 Workshop on Functionality, Physics, Intentionality and Causality

Learning Spatial Knowledge for Text to 3D Scene Generation
Angel X. Chang, Manolis Savva, and Christopher D. Manning
Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing

Interactive Learning of Spatial Knowledge for Text to 3D Scene Generation
Angel X. Chang, Manolis Savva, and Christopher D. Manning
Proceedings of the ACL 2014 Workshop on Interactive Language Learning, Visualization, and Interfaces

Semantic Parsing for Text to 3D Scene Generation
Angel X. Chang, Manolis Savva, and Christopher D. Manning
Proceedings of the ACL 2014 Workshop on Semantic Parsing

TransPhoner: Automated Mnemonic Keyword Generation
Manolis Savva, Angel X. Chang, Christopher D. Manning, and Pat Hanrahan
Proceedings of CHI 2014

Example-based Synthesis of 3D Object Arrangements
Matthew Fisher and Daniel Ritchie and Manolis Savva and Thomas Funkhouser, and Pat Hanrahan
Proceedings of ACM SIGGRAPH Asia 2012

GraphPrism: Compact Visualization of Network Structure
Sanjay Kairam, Diana MacLean, Manolis Savva, and Jeffrey Heer
Advanced Visual Interfaces 2012

ReVision: Automated Classification, Analysis and Redesign of Chart Images
Manolis Savva, Nicholas Kong, Arti Chhajta, Fei-Fei Li, Maneesh Agrawala, and Jeffrey Heer
Proceedings of ACM UIST 2011

Characterizing Structural Relationships in Scenes Using Graph Kernels
Matthew Fisher, Manolis Savva, and Pat Hanrahan
Proceedings of ACM SIGGRAPH 2011

Back-action-evading Measurements of Nanomechanical Motion
Jared Hertzberg, Tristan Rocheleau, Tchefor Ndukum, Manolis Savva, Aashish Clerk, and Keith Schwab
Nature Physics vol. 6, no. 3, pp. 213–217, 2009

Invited Talks

Vicarious Union City, CA
Common-sense Knowledge for Virtual Environments October 2015

Computer Science, University of California, Berkeley Berkeley, CA
Semantic Understanding of Objects, Actions, and Environments September 2014

Employment

Research Intern Tokyo, Japan
Square Enix Co., Ltd. Fall 2013
Mentored by Remi Driancourt. Investigated geometric analysis methods for 3D model part segmentation and recombination in order to enable automated synthesis of object variations. Outcome was a prototype system and research talk to the advanced technologies division of Square Enix.

Research Assistant Ithaca, NY
Program of Computer Graphics, Cornell University May 2009 – May 2010
Mentored by Prof. Steve Marschner. Acquired material appearance as Bidirectional Texture Functions using gonioreflectometer experimental setup; investigated data compression and real-time rendering of captured data

Research Assistant Ithaca, NY
Laboratory of Atomic and Solid State Physics, Cornell University Fall 2007
Mentored by Prof. Keith Schwab. Designed, prototyped and implemented microwave cavity electromagnetic filter and cryogenic containment probes used in experimental setup for achieving near absolute zero cooling of nano-mechanical resonator circuits.

Teaching and Mentoring

Teaching Fellow Stanford, CA
Introduction to Computer Graphics and Imaging (Stanford CS 148) Summer 2015
Taught lectures, designed and graded assignments and exams

Research Mentor Stanford, CA
Stanford RA and CURIS Programs Summer 2013 – present
Mentored two masters students in their research assistanships and four undergraduate students as part of the Stanford CS Undergraduate Research Internship program. Students contributed significantly to the development of the ShapeNet research project

Course Assistant Stanford, CA
Introduction to Computer Graphics and Imaging (Stanford CS 148) Summer 2011
Advised students in office hours, designed and graded exams and programming assignments, gave guest lectures

Teaching Assistant Ithaca, NY
Introduction to Scientific Computing (Cornell CS 3220) Spring 2010
Advised students in office hours, designed and graded exams and programming assignments

Teaching Assistant Ithaca, NY
Introduction to Computer Graphics (Cornell CS 4620) Fall 2009
Advised students in office hours, graded exams and programming assignments

Service

Reviewer: CHI, SIGGRAPH, SIGGRAPH Asia, TVCG, UIST

Workshop Organizer: Eurographics 3DOR 2016 SHREC Track — Large-scale 3D Shape Retrieval from ShapeNet Core55

Research Seminar Organizer: Started "Semantics and Geometry" weekly seminar at Stanford to facilitate interdisciplinary research communication (2014-2016); Organized Stanford graphics lab GCafe lunch talk series (2014-2016)

Skills

Languages: Modern Greek and Bulgarian (native tongues), English (fluent), Japanese (advanced proficiency), Mandarin (intermediate proficiency), German (basic proficiency)

Martial Arts: practitioner of Aikido, served as president of Cornell Aikido Club for 4 years

Honors and Awards

Stanford Graduate Fellowship 2012-2015

ACM UIST Notable Paper Award (for ReVision paper, at UIST 2011)

CASP–Fulbright undergraduate scholarship (funded by US and Cyprus governments, 2005-2009)

Undergraduate Teaching Assistant Excellence Award (Computer Science Department, Cornell University, 2009)

Distinguished Leadership Award for Aikido Club presidentship (Cornell Student Activities Office, 2009)

Robert J. Smith award for most promising student of Japanese (Asian Studies Department, Cornell University, 2006)

Highest international score award for GCE A–Level Physics Advanced Extension (administered by Edexcel, 2003)

Graduating class valedictorian (2003 class of American Academy Larnaca, Cyprus)

References

Pat Hanrahan
Canon USA Professor of Computer Science
hanrahan@cs.stanford.edu

Leonidas J. Guibas
Paul Pigott Professor of Computer Science and Electrical Engineering
guibas@cs.stanford.edu

Maneesh Agrawala
Professor of Computer Science
maneesh@cs.stanford.edu