Manolis Savva

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Education

Stanford University — Stanford, CA
Ph.D. in Computer Science, advised by Patrick Hanrahan; GPA:4.205 — *Sep. 2010 – Present*

Cornell University — Ithaca, NY
B.A. in Physics and Computer Science; GPA:4.02; magna cum laude — *Aug. 2005 – Dec. 2009*

Research Interests

- 3D content creation through data-mining and probabilistic modeling
- 3D scene modeling interfaces
- Data visualization
- Spatial cognition and linguistics

Research Experience

Stanford University, Computer Graphics Lab — Stanford, CA
Ph.D. student, advised by Patrick Hanrahan — *Sep. 2010 – Present*

- Conducting research on 3D content creation using probabilistic modeling, data-mining and integration of 3D data with other information sources

Stanford University, HCI Group — Stanford, CA
Ph.D. student rotation, advised by Scott Klemmer — *April 2011 – June 2011*

- Conducted research on user interfaces for 3D scene design driven by scene examples

Stanford University, Visualization Group — Stanford, CA
Ph.D. student rotation, advised by Jeff Heer — *Dec. 2010 – April 2011*

- Conducted research on automatic classification, analysis and redesign of data visualization images

Cornell University, Program of Computer Graphics — Ithaca, NY
Research Assistant, advised by Steve Marschner — *May 2009 – May 2010*

- Acquired material appearance as Bidirectional Texture Functions using gonioreflectometer experimental setup; investigated data compression and real-time rendering of captured data

Cornell University, Laboratory of Atomic and Solid State Physics — Ithaca, NY
Research Assistant, advised by Keith Schwab — *Dec. 2007 – Dec. 2008*

- 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

Publications

[1] M. Savva, A. X. Chang, P. Hanrahan, M. Fisher, and M. Nießner, "SceneGrok: Inferring Action Maps in 3D Environments," in *Proceedings of ACM SIGGRAPH Asia 2014*.

[2] M. Savva, A. X. Chang, M. Fisher, M. Nießner, and P. Hanrahan, "Learning Affordance Maps by Observing Interactions," in *CVPR 2014 Workshop on Functionality, Physics, Intentionality and Causality*.

[3] A. X. Chang, M. Savva, and C. D. Manning, "Learning Spatial Knowledge for Text to 3D Scene Generation," in *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing*.

[4] A. X. Chang, M. Savva, and C. D. Manning, "Interactive Learning of Spatial Knowledge for Text to 3D Scene Generation," in *Proceedings of the ACL 2014 Workshop on Interactive Language Learning, Visualization, and Interfaces*.

[5] A. X. Chang, M. Savva, and C. D. Manning, "Semantic Parsing for Text to 3D Scene Generation," in *Proceedings of the ACL 2014 Workshop on Semantic Parsing*.

[6] M. Savva, A. X. Chang, C. D. Manning, and P. Hanrahan, "TransPhoner: Automated Mnemonic Keyword Generation," in *Proceedings of CHI 2014*.

[7] M. Fisher, D. Ritchie, M. Savva, T. Funkhouser, and P. Hanrahan, "Example-based Synthesis of 3D Object Arrangements," in *Proceedings of ACM SIGGRAPH Asia 2012*.

[8] S. Kairam, D. MacLean, M. Savva, and J. Heer, "GraphPrism: Compact Visualization of Network Structure," in *Advanced Visual Interfaces 2012*.

[9] M. Savva, N. Kong, A. Chhajta, L. Fei-Fei, M. Agrawala, and J. Heer, "ReVision: Automated Classification, Analysis and Redesign of Chart Images," in *Proceedings of ACM UIST 2011*.

[10] M. Fisher, M. Savva, and P. Hanrahan, "Characterizing Structural Relationships in Scenes Using Graph Kernels," in *Proceedings of ACM SIGGRAPH 2011*.

[11] J. Hertzberg, T. Rocheleau, T. Ndukum, M. Savva, A. Clerk, and K. Schwab, "Back-action-evading Measurements of Nanomechanical Motion," *Nature Physics*, vol. 6, no. 3, pp. 213–217, 2009.

Teaching Experience

Introduction to Computer Graphics and Imaging (Stanford CS 148) Stanford, CA

Course Assistant for Justin Talbot *Summer 2011*

- Advised students in office hours, designed and graded exams and programming assignments, gave guest lectures

Introduction to Scientific Computing (Cornell CS 3220) Ithaca, NY

Teaching Assistant for Steve Marschner *Spring 2010*

- Advised students in office hours, designed and graded exams and programming assignments

Introduction to Computer Graphics (Cornell CS 4620) Ithaca, NY

Teaching Assistant for Doug James *Fall 2009*

- Advised students in office hours, graded exams and programming assignments

Skills

- **Programming**: C/C++, Java, C#, Scala, HTML/CSS/Javascript, WebGL, MATLAB, Python, MIPS32 Assembly
- **Operating Systems**: *nix and Windows
- **Packages**: Mathematica, LaTeX, AutoCAD, Autodesk 3DS Max, Autodesk Inventor Pro, LabVIEW
- **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 cohort)
- 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)