

Yotam Gingold

CONTACT	Department of Computer Science George Mason University 4400 University Drive MSN 4A5 Fairfax, VA 22030 USA	Computational Reality, Creativity and Graphics Lab (CraGL) email: ygingold@gmu.edu voice: +1-703-993-9196 web: https://cragl.cs.gmu.edu/
RESEARCH INTERESTS	Computer graphics, geometric modeling, interaction, design, creative tools, color, perception, human computation, crowdsourcing.	
EDUCATION	New York University Ph.D. in Computer Science (2009) Thesis: 2D-Centric Interfaces and Algorithms for 3D Modeling Advisor: Denis Zorin	
	New York University M.Sc. equivalency in Computer Science (2005) Qualifying exam topic: Topology for Computation Advisor: Denis Zorin	
	Brown University B.Sc. in Computer Science & Mathematics (2002)	
EMPLOYMENT	George Mason University , Associate Professor	Fall 2018– present
	Adobe Research , Visiting Professor	Fall 2019– Spring 2020
	George Mason University , Assistant Professor	Fall 2012– Spring 2018
	Columbia University/Rutgers University , Post-Doctoral Researcher Mentors: Eitan Grinspun, Andrew Nealen	Summer 2011– Summer 2012
	Tel-Aviv University/Herzliya IDC , Post-Doctoral Researcher Mentors: Daniel Cohen-Or, Ariel Shamir	Feb. 2010– Summer 2011
	JST ERATO Design UI Project , Visiting Researcher Mentor: Takeo Igarashi	Summer 2008
	Adobe Systems Creative Technologies Lab , Research Intern Mentor: David Salesin	Summer 2006

PUBLICATIONS		Advisees in bold	
TOTAL CITATIONS	1581*	* Google Scholar	
H-INDEX	22*		
		Impact Factor	Accept Rate
REFEREED PAPERS (TOP VENUES IN FIELD)	1	Jialin Huang , Rana Hanocka, Alexa Siu, Yotam Gingold . 2023. ShapeSonic: Sonifying Fingertip Interactions for Non-Visual Virtual Shape Perception. <i>ACM SIGGRAPH Asia 2023 (Conference Papers)</i> .	34%
	2	Cheng-Kang Ted Chao , Jason Klein , Jianchao Tan , Jose Echevarria, Yotam Gingold . 2023. ColorfulCurves: Palette-Aware Lightness Control and Color Editing via Sparse Optimization. <i>ACM Transactions on Graphics (TOG)</i> 42(4). Also in <i>Proceedings of SIGGRAPH North America 2023</i> .	21%
	3	Zheng-Jun Du, Liang-Fu Kang, Jianchao Tan , Yotam Gingold , Kun Xu. 2023. Image vectorization and editing via linear gradient layer decomposition. <i>ACM Transactions on Graphics (TOG)</i> 42(4). Also in <i>Proceedings of SIGGRAPH North America 2023</i> .	21%
	4	Xiaochun Tong, Hsueh-Ti Derek Liu, Yotam Gingold , Alec Jacobson. 2023. Differentiable Heightfield Path Tracing with Accelerated Discontinuities. <i>ACM SIGGRAPH North America 2023 (Conference Papers)</i> .	35%
	5	Yong Li , Shoaib Kamil, Alec Jacobson, Yotam Gingold . 2021. H♥rtDown: Document Processor for Executable Linear Algebra Papers. <i>ACM SIGGRAPH Asia 2022 (Conference Papers)</i> .	37%
	6	Chuan Yan , John Joon Young Chung, Kiheon Yoon, Yotam Gingold , Eytan Adar, Sungsoo Ray Hong. 2022. FlatMagic: Improving Flat Colorization through AI-driven Design for Digital Comic Professionals. <i>ACM CHI Conference on Human Factors in Computing Systems</i> . (First round acceptance)	13%
	7	Yong Li , Shoaib Kamil, Alec Jacobson, Yotam Gingold . 2021. I♥LA: Compilable Markdown for Linear Algebra. <i>ACM Transactions on Graphics (TOG)</i> 40(6). Also in <i>Proceedings of SIGGRAPH Asia 2021</i> .	7.4 34%
	8	Xue Yu , Stephen DiVerdi, Akshay Sharma, Yotam Gingold . 2021. ScaffoldSketch: Accurate Industrial Design Drawing in VR. <i>ACM Symposium on User Interface Software and Technology (UIST) 2021</i> .	26%
	9	Zheng-Jun Du, Kai-Xiang Lei, Kun Xu, Jianchao Tan , Yotam Gingold . 2021. Video Recoloring via Spatial-Temporal Geometric Palettes. <i>ACM Transactions on Graphics (TOG)</i> 40(4). Also in <i>Proceedings of SIGGRAPH North America 2021</i> .	7.4 34%
	10	Chuan Yan , David Vanderhaeghe, Yotam Gingold . 2020. A Benchmark for Rough Sketch Cleanup. <i>ACM Transactions on Graphics (TOG)</i> 39(6). Also in <i>Proceedings of SIGGRAPH Asia 2020</i> .	5.4 36%

- 11 **Jianchao Tan**, Jose Echevarria, **Yotam Gingold**. 2018. Efficient palette-based decomposition and recoloring of images via RGBXY-space geometry. *ACM Transactions on Graphics (TOG)* 37(6). Also in *Proceedings of SIGGRAPH Asia 2018*. 6.5 30%
- 12 **Songrun Liu**, **Zachary Ferguson**, Alec Jacobson, **Yotam Gingold**. 2017. Seamless: Seam erasure and seam-aware decoupling of shape from mesh resolution. *ACM Transactions on Graphics (TOG)* 36(6). Also in *Proceedings of SIGGRAPH Asia 2017*. 4.4 25%
- 13 Jiaxian Yao, Danny M. Kaufman, **Yotam Gingold**, Maneesh Agrawala. 2017. Interactive Design and Stability Analysis of Decorative Joinery for Furniture. *ACM Transactions on Graphics (TOG)* 36(2). Presented at *SIGGRAPH North America 2017*. 4.4 28%
- 14 **Jianchao Tan**, Jyh-Ming Lien, **Yotam Gingold**. 2017. Decomposing Images into Layers via RGB-space Geometry. *ACM Transactions on Graphics (TOG)* 36(1). Presented at *SIGGRAPH North America 2017*. 4.4 28%
- 15 Ming Jin, Daniel Gopstein, **Yotam Gingold**, Andrew Nealen. 2015. AniMesh: Interleaved Animation, Modeling, and Editing. *ACM Transactions on Graphics (TOG)* 34(6). Also in *Proceedings of SIGGRAPH Asia 2015*. 4.2 28%
- 16 **Jianchao Tan**, Marek Dvornoznak, Daniel Sykora, **Yotam Gingold**. 2015. Decomposing Time-Lapse Paintings into Layers. *ACM Transactions on Graphics (TOG)* 34(4). Also in *Proceedings of SIGGRAPH North America 2015*. **Invited for presentation at FMX 2016 Highlights of SIGGRAPH**. 4.2 25%
- 17 Guilin Liu, **Yotam Gingold**, Jyh-Ming Lien. 2015. Continuous Visibility Feature. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. 28%
- 18 **Songrun Liu**, Alec Jacobson, **Yotam Gingold**. 2014. Skinning Cubic Bézier Splines and Catmull-Clark Subdivision Surfaces. *ACM Transactions on Graphics (TOG)* 33(6). Also in *Proceedings of SIGGRAPH Asia 2014*. **Adopted by Adobe Illustrator as the Puppet Warp tool**. 4.1 18%
- 19 Peter Borosan, Ming Jin, Doug DeCarlo, **Yotam Gingold**, Andrew Nealen. 2012. RigMesh: Automatic Rigging for Part-Based Shape Modeling and Deformation. *ACM Transactions on Graphics (TOG)* 31(6). Also in *Proceedings of SIGGRAPH Asia 2012*. 3.4 24%
- 20 **Yotam Gingold**, Ariel Shamir, Daniel Cohen-Or. 2012. Micro Perceptual Human Computation for Visual Tasks. *ACM Transactions on Graphics (TOG)* 31(5). Presented at *SIGGRAPH North America 2012*. 3.4 21%
- 21 **Yotam Gingold**, Denis Zorin, Takeo Igarashi. 2009. Structured Annotations for 2D-to-3D Modeling. *ACM Transactions on Graphics (TOG)* 28(5). Also in *Proceedings of SIGGRAPH Asia 2009*. 3.6 25%

- 22 **Yotam Gingold** and Denis Zorin. 2008. Shading-Based Surface Editing. **3.4** 17%
ACM Transactions on Graphics (TOG) 27(3). Also in *Proceedings of SIGGRAPH North America 2008*.
- 23 **Yotam I. Gingold**, Philip L. Davidson, Jefferson Y. Han, Denis Zorin. 23%
 2006. A Direct Texture Placement and Editing Interface. In *Proceedings of the 19th annual ACM Symposium on User Interface Software and Technology (UIST)*, Montreux, Switzerland.
- REFEREED PAPERS (ADDITIONAL)
- 1 **Cheng-Kang Ted Chao**, Jason Klein, **Jianchao Tan**, Jose Echevarria, 29%
Yotam Gingold. 2023. LoCoPalettes: Local Control for Palette-based Image Editing. *Computer Graphics Forum (CGF)* 42(4). Also in *Eurographics Symposium on Rendering (EGSR)*.
- 2 **Cheng-Kang Ted Chao**, Karan Singh, **Yotam Gingold**. 2021. **2.4** 27%
 PosterChild: Blend-Aware Artistic Posterization. *Computer Graphics Forum (CGF)* 40(4). Also in *Eurographics Symposium on Rendering (EGSR)*.
- 3 **Josef Graus**, Alec Jacobson, **Yotam Gingold**. 2021. Interacting with **3.7**
 Self-Similarity. *Computer-Aided Design (CAD)* 130.
- 4 **Songrun Liu**, **Jianchao Tan**, Zhigang Deng, **Yotam Gingold**. 2020. **2.1**
 Hyperspectral Inverse Skinning. *Computer Graphics Forum (CGF)* 39(6). Presented at *Eurographics 2021*.
- 5 **Jianchao Tan**, Stephen DiVerdi, Jingwan Lu, **Yotam Gingold**. 2019. **4.6**
 Pigmento: Pigment-Based Image Analysis and Editing. *IEEE Transactions on Visualization and Computer Graphics (TVCG)* 25(9). Presented at *Expressive 2018*.
- 6 Qiuying Xu, **Songrun Liu**, **Yotam Gingold**, Karan Singh. 2016. Using 1.2
 Isophotes and Shadows to Interactively Model Normal and Height Fields. *Computers & Graphics*, 59.
- 7 Qiuying Xu, **Yotam Gingold**, Karan Singh. 2015. Inverse Toon Shading: 51%
 Interactive Normal Field Modeling with Isophotes. In *Proceedings of Sketch-Based Interfaces and Modeling (SBIM)*. (**Best Paper Award**)
- 8 Jakub Fišer, Michal Lukáč, Ondřej Jamříška, Martin Čadík, **Yotam** 1.6 37%
Gingold, Paul Asente, Daniel Sýkora. 2014. Synthesis of Hand-colored Animations with Temporal Noise Control. *Computer Graphics Forum* 33(4). Also in *Proceedings of Eurographics Symposium on Rendering (EGSR) 2014*.
- 9 Alex Shtof, Alexander Agathos, **Yotam Gingold**, Ariel Shamir, Daniel 1.6 25%
 Cohen-Or. 2013. Geosemantic Snapping for Sketch-Based Modeling. *Computer Graphics Forum* 32(2). Also in *Proceedings of Eurographics 2013*. (**Best Paper Award Nominee**)
- 10 Timothy Gerstner, Doug DeCarlo, Marc Alexa, Adam Finkelstein, 1.0
Yotam Gingold, Andrew Nealen. 2013. Pixelated Image Abstraction with Integrated User Constraints. *Computers & Graphics* 37(5).

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|--------------------|----|---|-----|-----|
| | 11 | Yotam I. Gingold and Harry Gingold. 2013. Simulation of Perspective by Nonlinear Transformations. <i>Mathematical Modelling and Analysis</i> 18(3). | 0.5 | |
| | 12 | Yotam Gingold , Etienne Vouga, Eitan Grinspun, Haym Hirsch. 2012. Diamonds From the Rough: Improving Drawing, Painting, and Singing via Crowdsourcing. In <i>Proceedings of the AAAI Workshop on Human Computation (HCOMP)</i> , Toronto, Canada. | | |
| | 13 | Timothy Gerstner, Doug DeCarlo, Marc Alexa, Adam Finkelstein, Yotam Gingold , Andrew Nealen. 2012. Pixelated Image Abstraction. In <i>Proceedings of the International Symposium on Non-Photorealistic Animation and Rendering (NPAR)</i> , Annecy, France. | 43% | |
| | 14 | Tino Weinkauff, Yotam Gingold , Olga Sorkine. 2010. Topology-based Smoothing of 2D Scalar Fields with C1-Continuity. <i>Computer Graphics Forum</i> 29(3). Also in <i>Proceedings of EuroVis 2010</i> , Bordeaux, France. | 1.5 | 29% |
| | 15 | Elif Tosun, Yotam I. Gingold , Jason Reisman, Denis Zorin. 2007. Shape Optimization Using Reflection Lines. In <i>Proceedings of the fifth Eurographics Symposium on Geometry Processing (SGP)</i> , Barcelona, Spain. | | 28% |
| | 16 | Yotam I. Gingold , Denis Zorin. 2007. Controlled-Topology Filtering. <i>Computer-Aided Design</i> 39(8). | 1.2 | |
| | 17 | Yotam I. Gingold , Harry Gingold. 2007. Geometrical Properties of a Family of Compactifications. <i>Balkan Journal of Geometry and Its Applications (BJGA)</i> 12(1). | 0.8 | |
| | 18 | Eitan Grinspun, Yotam Gingold , Jason Reisman, Denis Zorin. 2006. Computing Discrete Shape Operators on General Meshes. In <i>Computer Graphics Forum</i> 25(3). Also in <i>Proceedings of Eurographics 2006</i> , Vienna, Austria. (Best Paper Award, 3rd) | 1.2 | 17% |
| | 19 | Yotam I. Gingold . 2006. From Rock, Paper, Scissors to Street Fighter II: Proof By Construction. In <i>Proceedings of the ACM SIGGRAPH Symposium on Videogames (Sandbox)</i> , Boston, MA. (Best Paper Award) | | 22% |
| | 20 | Yotam I. Gingold , Denis Zorin. 2006. Controlled-Topology Filtering. In <i>Proceedings of the ACM Symposium on Solid and Physical Modeling (SPM)</i> , Cardiff, Wales. (Best Paper Award, 2nd) | | 38% |
| OTHER PUBLICATIONS | 1 | Yong Li , Shoaib Kamil, Alec Jacobson, Yotam Gingold . 2021. I♥LA: Compilable Markdown for Linear Algebra. <i>ICLR 2021 Workshop: Rethinking ML Papers</i> (oral presentation and exhibit). | | |
| | 2 | Nanlin Sun, Annette Feng, Ryan Patton, Yotam Gingold , Wallace Lages. 2021. Programmable Virtual Reality Environments. Poster presented at the <i>IEEE Conference on Virtual Reality and 3D User Interfaces (VR)</i> . | | |

- 3 Alexander Brodsky, **Yotam Gingold**, Thomas D LaToza, Lap-Fai Yu, Xu Han. 2021. Catalyzing the Agility, Accessibility, and Predictability of the Manufacturing-Entrepreneurship Ecosystem Through Design Environments and Markets for Virtual Things. *Proceedings of the 10th International Conference on Operations Research and Enterprise Systems (ICORES 2021)*.
- 4 Shay Sheinfeld, **Yotam Gingold**, Ariel Shamir. 2016. Video Summarization Using Crowdsourced Causality Graphs. Poster presented at the *AAAI Conference on Human Computation and Crowdsourcing (HCOMP)*, Austin, USA. Paper presented at the *Workshop on Human Computation for Image and Video Analysis (GroupSight @ HCOMP)*, **Best Paper Award**.
- 5 **Yotam Gingold**. 2016. Review of *A sampler of useful computational tools for applied geometry, computer graphics, and image processing* by Daniel Cohen-Or, Chen Greif, Tao Ju, Niloy J. Mitra, Ariel Shamir, Olga Sorkine-Hornung, Hao (Richard) Zhang, and Gil Hoffer. *American Mathematical Society MathSciNet Mathematical Reviews*. Invited
- 6 Tim Balint, **Yotam Gingold**, Jan Allbeck. 2014. Agent Script Generation Using Descriptive Text Documents. Poster presented at the *ACM SIGGRAPH Conference on Motion in Games (MIG)*, Los Angeles, USA.
- 7 **Yotam Gingold**, Adrian Secord, Jefferson Y. Han, Eitan Grinspun, Denis Zorin. 2004. A Discrete Model for Inelastic Deformation of Thin Shells. Poster presented at the *ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA)*, Grenoble, France; also an NYU Computer Science Technical Report.

TECHNOLOGY TRANSFER	Songrun Liu, Alec Jacobson, Yotam Gingold . 2014. Skinning Cubic Bézier Splines and Catmull-Clark Subdivision Surfaces. <i>ACM Transactions on Graphics (TOG)</i> 33(6). Also in <i>Proceedings of SIGGRAPH Asia 2014</i> .	Adobe Illustrator's Puppet Warp tool (almost 30 million Creative Cloud subscribers)
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GRANTS AWARDED		Total Amount	Share	My Share	Date
TOTAL		\$867,592	96%	\$837,594	
	1 4-VA, "Collaboration on Virtual Reality Programming Environments". PI: Wallace Santos Lages, co-PI's: Yotam Gingold , Ryan Patton.	\$34,998	14%	\$5,000	2020
	2 National Science Foundation , "CAREER: Direct Manipulation of Nonlinear Optimization for Structured Geometry Creation". PI: Yotam Gingold , co-PI's: none.	\$549,373	100%	\$549,373	2015–2020
	3 National Science Foundation , REU supplement for "CAREER: Direct Manipulation of Nonlinear Optimization for Structured Geometry Creation". PI: Yotam Gingold , co-PI's: none.	\$48,400	100%	\$48,400	2015–2020
	4 Adobe , Unrestricted gifts (8)	\$127,500	100%	\$127,500	2017–2023
	5 Google Faculty Research Award , "Diamonds from the Rough: Improving Creative Performance via Aggregation". PI: Yotam Gingold , co-PI's: none.	\$42,205	100%	\$42,205	2014–2015
	6 National Science Foundation , "EAGER: Improving the Quality and Editability of 2D and 3D Shapes via Crowdsourcing and Self-Crowdsourcing". PI: Yotam Gingold , co-PI's: none.	\$70,116	100%	\$70,116	2014–2016
	7 George Mason University , "Improving Creative Performance via Crowdsourcing". PI: Yotam Gingold , co-PI's: none.	\$5,000	100%	\$5,000	2013

AWARDS	George Mason University Teaching Excellence Award	2017
	George Mason University Computer Science Department Outstanding Teaching Award	2016
	George Mason University Emerging Researcher/Scholar/Creator finalist	2016
	George Mason University Emerging Researcher/Scholar/Creator finalist	2015
	National Science Foundation Faculty Early Career Award (CAREER)	2015–2020
	George Mason University Computer Science Department Outstanding Young Faculty Researcher	2015
	Tel-Aviv University Vatat Post-doctoral Research Scholarship	2010–2011
	New York University Courant Institute of Mathematical Sciences Janet Fabri Prize for most outstanding dissertation	2009–2010
	New York University Dean's Dissertation Fellowship	2008–2009
	New York University Harold Grad Memorial Prize for outstanding performance and promise	2007–2008
	Highlights of SIGGRAPH, FMX 2016: Jianchao Tan , Marek Dvoroznak, Daniel Sykora, Yotam Gingold . Recovering Painted Strokes from Time- Lapse Paintings. <i>SIGGRAPH North America 2015/ACM Transactions on Graphics</i> (TOG) 34(4).	2016
	Best Paper: Shay Sheinfeld, Yotam Gingold , Ariel Shamir. 2016. Video Summarization Using Crowdsourced Causality Graphs. <i>Workshop on Human</i> <i>Computation for Image and Video Analysis (GroupSight @ HCOMP)</i>	2016
	Best Paper: Qiuying Xu, Yotam Gingold , Karan Singh. 2015. Inverse Toon Shading: Interactive Normal Field Modeling with Isophotes. In <i>Proceedings of</i> <i>Sketch-Based Interfaces and Modeling</i> .	2015
	Best Paper: Yotam I. Gingold . 2006. From Rock, Paper, Scissors to Street Fighter II: Proof By Construction. In <i>Proceedings of the 2006 ACM SIGGRAPH</i> <i>Symposium on Videogames (Sandbox)</i> , Boston, MA.	2006
	Best Paper Nominee: Alex Shtof, Alexander Agathos, Yotam Gingold , Ariel Shamir, Daniel Cohen-Or. 2013. Geosemantic Snapping for Sketch- Based Modeling. <i>Computer Graphics Forum</i> , 32(2). Also in <i>Proceedings of</i> <i>Eurographics 2013</i> .	2013
	Best Paper, 2nd Place: Yotam I. Gingold , Denis Zorin. 2006. Controlled- Topology Filtering. In <i>Proceedings of the 2006 ACM Symposium on Solid and</i> <i>Physical Modeling (SPM)</i> , Cardiff, Wales.	2006

Best Paper, 3rd Place: Eitan Grinspun, **Yotam Gingold**, Jason Reisman, Denis Zorin. 2006. Computing Discrete Shape Operators on General Meshes. In *Proceedings of Eurographics 2006*, Vienna, Austria. 2006

SELECTED TALKS	Stanford “Seminar on People, Computers, and Design”, USA	February 2022
	“I♥LA: Compilable Markdown for Linear Algebra”	
	Technion – Israel Institute of Technology, Israel	June 2021
	“Hyperspectral Inverse Skinning”	
	Toronto Geometry Colloquium, Canada (virtual)	February 2021
	“Color and Geometry”	
	Virginia Tech Industrial Design, USA	August 2019
	“Interactive Modeling”	
	New York University, USA	August 2019
	“Color, Geometry, and Time-Lapse Painting”	
	University of Toronto, Canada	May 2019
	“Color, Geometry, and Time-Lapse Painting”	
	The Fields Institute, Canada	April 2019
	“Seam erasure and seam-aware decoupling of shape from mesh resolution”	
	INRIA, France	June 2018
	“Simplifying Digital Design”	
	SIGGRAPH Asia Course (refereed)	Dec. 2016
	“Sketch-based Modeling”	
	Eurographics Tutorial (refereed)	May 2016
	“Sketch-based Modeling”	
	University of Tokyo, Japan	Oct. 2015
	“Editable Computer Graphics”	
	Adobe Creative Technology Lab, USA	Aug. 2015
	“Editable Computer Graphics”	
	American University, USA	Apr. 2015
	“Making and Editing Computer Graphics, with and without a Crowd”	
	University of California, Berkeley, USA	Feb. 2015
	“Making and Editing Computer Graphics, with and without a Crowd”	
	SIGGRAPH Asia 2014 Invited Course, China	Dec. 2014
	“Skinning: Real-time Shape Deformation”	
	City University of Hong Kong, China	Dec. 2014
	“Making and Editing Computer Graphics, with and without a Crowd”	

Zhejiang University, China “Making and Editing Computer Graphics, with and without a Crowd”	Dec. 2014
University of Pennsylvania, USA “Rescuing computers from hard problems in graphics”	Nov. 2013
University of Tokyo, Japan “Rescuing computers from hard problems in graphics”	July 2013
Inria IMAGINE, France “Rescuing computers from hard problems in graphics”	May 2013
Virginia Tech, National Capital Region, USA “Geometric Modeling for Humans”	Nov. 2012
Adobe Creative Technologies Lab, USA “Perceptual Micro Human Computation for Visual Tasks”	Dec. 2011
Massachusetts Institute of Technology, USA “Perceptual Micro Human Computation for Visual Tasks”	Nov. 2011
Princeton University, USA “Perceptual Micro Human Computation for Visual Tasks”	Nov. 2011
Hebrew University of Jerusalem, Israel “2D-Centric Interfaces and Algorithms for 3D Modeling”	Dec. 2010
University of Toronto, Canada “2D-Centric Interfaces and Algorithms for 3D Modeling”	April 2009
JST ERATO Design UI Project, Japan “2D-Centric Interfaces and Algorithms for 3D Modeling”	June 2008

PROFESSIONAL ACM
MEMBERSHIPS

PROFESSIONAL COMMITTEES	SIGGRAPH Research Career Development Committee, <i>Junior Scientist Mentorship</i>	2021– present
	SIGGRAPH (North America) Technical Papers Award Committee	2022

EDITOR, REFEREE, & CONFERENCE SERVICE	ACM SIGGRAPH North America (2017, 2018, 2021, 2022, 2024 program committee , 2017 technical briefs and posters program committee, 2022 thesis fast forward)
	ACM SIGGRAPH Asia (2015, 2019 program committee , 2016 technical briefs and posters program committee, 2014 workshops jury)
	ACM Transactions on Graphics (2018–2021 associate editor)
	Eurographics (2015, 2016, 2018, 2019, 2022, 2024 program committee)

Computer Graphics Forum (**2022–present associate editor**)

Computers & Graphics (**2015–present associate editor**)

Expressive (Sketch-Based Interfaces and Modeling (SBIM); Non-Photorealistic Animation and Rendering (NPAR); Computational Aesthetics (CAe)) (**2017 co-chair, 2016 co-chair, 2011–2019 program committee**)

Capital Graphics (**2018, 2019, 2022, 2023 conference chair**)

CVPR

ACM SIGCHI

ACM UIST

Computer Graphics Forum

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

IEEE Transactions on Visualization and Computer Graphics (TVCG)

IEEE Transactions on Multimedia

Symposium on Geometry Processing (SGP) (**2012–2023 program committee**)

Shape Modeling International (SMI) (**2013–2015, 2017–2023 program committee**)

Pacific Graphics (**2012, 2020 program committee**)

Eurographics Symposium on Rendering (EGSR) (**2022 program committee**)

Geometric & Physical Modeling (GD/SPM) (**2015, 2016 program committee**)

Computer-Aided Design and Computer Graphics (CAD/Graphics) (**2013, 2015 PC**)

AAAI Conference on Human Computation and Crowdsourcing (HCOMP) (**2015 PC**)

3D Vision (3DV) (**2015 area chair**)

Computer-Aided Design (CAD)

Graphical Models

IEEE Computer Graphics and Applications (CG&A)

ACM Sandbox (SIGGRAPH Game Papers) (**2007 program committee**)

Foundations of Digital Games (FDG) (**2015 program committee**)

IEEE Symposium on 3D User Interfaces (3DUI)

Journal of Computational and Applied Mathematics (JCAM)

Journal of Mechanical Engineering Science

Software: Practice and Experience

GRANT REFEREE SERVICE

National Science Foundation (NSF)

Fonds de recherche du Québec

Canada Foundation for Innovation (CFI)

Israel Science Foundation

U.S.-Israel Binational Science Foundation (BSF)

UNIVERSITY SERVICE	CS Tenure-Track Professor Search Committee	AY 2017–18, 2018–19, 2020–21, 2021–22, 2022–23
	University Teaching Excellence Award Committee	AY 2021–22
	School of Computing Stakeholders Committee	AY 2023–24
	CS Research Day Organizing Committee	Fall 2020
	CS Advisory Council	Fall 2018–Spring 2019
	CS Effective Teaching	Fall 2018–Spring 2019
	CS Space	Fall 2018–Spring 2019
	CS Distinguished Lectures Series Committee (co-chair)	Spring 2018–Spring 2019
	CS Undergraduate Studies Committee	Fall 2017–Spring 2018
	CS M.Sc. Admissions Committee	AY 2017–18, 2018–19, 2020–24
	CS PhD Research Symposium Organizing Committee	Spring 2015–Spring 2019
	NSF CAREER mentoring	Spring 2015–Summer 2018
	GAME Research Assistant Professor Search Committee	Spring 2014
	CS Web Committee	Fall 2013–Spring 2019, AY 2022–23
	CS Computing Committee	Fall 2012–Spring 2019
PH.D. ADVISEES	Jialin Huang	Fall 2021–present
	Cheng-Kang "Ted" Chao	Fall 2020–present
	Yong Li	Fall 2019–present
	Xue Yu	Fall 2019–present
	Chuan Yan	Fall 2018–present
	Joe Graus , “Interactive Numerical Optimization and Predictive Geometry Registration”.	Fall 2016–Fall 2023
	Jianchao Tan , “Image and Video Decomposition and Editing”. Research Scientist at Kwai.	Fall 2013–Spring 2019
	Songrun Liu , “Skinning Parametric Curves and Surfaces”. Senior Graphics Engineer at Tencent Game AI Center.	Fall 2012–Spring 2018

M.SC. THESES ADVISED	Henro Kriel , “I♥IQ: A Shader Graphing Calculator for Signed Distance Functions (SDFs).”. Graduated May 2023.	Fall 2022–Spring 2023
	Nusha Mehmanesh , “2D Cartoon Rigs From Uncorresponded Vector Graphics”. Graduated May 2019	Spring 2018–Spring 2019
	Anson Rutherford , “Interpolating Pixel Art”. Graduated December 2018.	Spring 2018–Fall 2018
	Lisa Huynh , “Bijective Deformations in R^n via Integral Curve Coordinates”. Graduated December 2013.	Fall 2012–Fall 2013
	Matthew Sabol , “Improving Sculpting via Crowdsourcing”. Graduated May 2014.	Fall 2012–Spring 2014

UNDERGRADUATE MENTEES	Matthew Yoon, <i>Brown University</i>	Summer 2023
	Samantha Tone, <i>George Mason University</i>	Summer 2023
	Gabriel Thomsen, <i>George Mason University</i>	Spring 2021
	Paul Hughes, <i>George Mason University</i>	Summer 2018
	Kyle Falicov, <i>George Mason University</i>	Summer 2018
	Benjamin Covington, <i>George Mason University</i>	Summer 2018
	Ashley Crouch, <i>George Mason University</i>	Summer 2018
	William Kang, <i>Purdue University</i>	Summer 2017
	Tristan Schuler, <i>George Mason University</i>	Summer 2017
	Zachary Ferguson, <i>George Mason University</i>	Fall 2015–Summer 2017
	Guilherme Schaidhauer, <i>Unisinos</i>	Summer 2015
	Mingrui Han, <i>George Mason University</i>	Summer 2015
	Hussein Zamzani, <i>George Mason University</i>	Summer 2015
	William Aulson, <i>George Mason University</i>	Summer 2015–Spring 2016
	Jack Casebeer, <i>George Mason University</i>	Summer 2015–Summer 2016
	Ananya Dhawan, <i>George Mason University</i>	Fall 2014–Spring 2015
	Nick Robinson, <i>University of Illinois at Urbana-Champaign</i>	Summer 2014
	Allegra Cohen, <i>Stanford University</i>	Summer 2014
	Bradford Webb, <i>George Mason University</i>	Fall 2013–Spring 2014
	Eugene Raether, <i>George Mason University</i>	Summer 2013–Spring 2014

HIGH SCHOOL MENTEES	Jason Klein, <i>Thomas Jefferson High School</i>	Summer and Fall 2021
	Joshua Park, <i>Centreville High School</i>	Summer 2020
	Ruben Ascoli, <i>Thomas Jefferson High School</i>	Summer 2017
	Ananya Suri, <i>Thomas Jefferson High School</i>	Summer 2015
	Abhishek Mishra, <i>Thomas Jefferson High School</i>	Summer 2014
	William Xu, <i>Thomas Jefferson High School</i>	Summer 2013
	Chris Kim, <i>Thomas Jefferson High School</i>	Summer 2013
	Jae Yun, <i>Thomas Jefferson High School</i>	Summer 2013

PH.D. COMMITTEE MEMBERSHIP	STUDENT	ADVISOR	DEPARTMENT	GRADUATION
	Chenxi Liu	Alla Sheffer	University of British Columbia	Jun. 2023
	Changyang Li	Lap-Fai (Craig) Yu	GMU Computer Science	
	Rawan Alghofaili	Lap-Fai (Craig) Yu	GMU Computer Science	Jul. 2022
	Wanchao Su	Rynson Lau	City Univ. of Hong Kong	Jul. 2021
	Yue Hao	Jyh-Ming Lien	GMU Computer Science	Jun. 2021
	Wenyan Bi	Bei Xiao	American University	Oct. 2019
	Changjian Li	Wenping Wang	University of Hong Kong	Aug. 2019
	Qi Xing	Qi Wei	GMU Bioengineering	Apr. 2019
	Even Entem	Marie-Paul Cani	Université Grenoble Alpes	Oct. 2018
	Jean-Dominique Favreau	Adrien Bousseau	University Côte d'Azur	Mar. 2018
	J. Timothy Balint	Jan Allbeck	GMU Computer Science	Jul. 2017
	George Whelan	Neil Epstein	GMU Mathematics	Apr. 2017
	Guilin Liu	Jyh-Ming Lien	GMU Computer Science	Jul. 2017
	Zhonghua Xi	Jyh-Ming Lien	GMU Computer Science	May 2017
	Hao Sun	Jim X. Chen	GMU Computer Science	Nov. 2014
	Ian Spiro	Christoph Bregler	NYU Computer Science	Sep. 2013

COURSES TAUGHT
AND DEVELOPED
AT GMU

CS 325 Introduction to Game Design (undergraduate)

DESCRIPTION: Game design, in various electronic entertainment technologies, involves a diverse set of skills and backgrounds from narrative and art to computer programming. This course surveys the technical aspects of the field, with an emphasis on innovative game design (creating, play testing, and programming).

DEVELOPMENT: I revamped this course to heavily emphasize prototyping. The workload increased from 1 prototype to biweekly or weekly prototypes. I introduced a new textbook, peer learning, flipped classroom discussions, a discussion of diversity or representation in games, and modern programming tools.

CS 662 Computer Graphics and Game Technologies (graduate)

DESCRIPTION: This course provides an introduction to technologies and techniques used in modern computer graphics, games, animations, and interactive software. The homework consists of several complex and mathematics-heavy programming assignments.

DEVELOPMENT: I transitioned to a flipped classroom and introduced reciprocal learning. I revamped the homework assignments and emphasize technological flexibility by using new and wildly different technology platforms for each.

CS 451 & 551 Computer Graphics (undergraduate and graduate)

DESCRIPTION: This course provides an introduction to computer graphics principles and practice. The homework consists of six intensive programming assignments.

DEVELOPMENT: I revamped the homework assignments, broadening their scope and modernizing them to ensure students are fluent in 2D and 3D computer graphics, including image processing, geometry processing, and rendering. I also introduced peer learning for in-class quizzes.

CS 425 Game Programming I (undergraduate)

DESCRIPTION: This course provides an overview of technical topics in game programming. Students each create a C++ game engine from scratch (graphics, input handling, entity-component-system, and scripting). In the final month of the course, students build on each others' engines to make games.

DEVELOPMENT: I completely revamped the homework projects. Unlike most computer science courses, students are given no skeleton code or project to work from. Students are taught up-to-date C++ best practices, build systems, and GPU programming.

CS 426 Game Programming II (undergraduate)

DESCRIPTION: This is a capstone class for computer science students in the Computer Game Design concentration. During the course, students make a functioning and complete game. Students gain experience planning, executing, and presenting the development of a substantial game from start to finish.

DEVELOPMENT: I introduced flipped classroom discussions based on a documentary series that parallels students' own progress in the class.

CS 112 Introduction to Computer Programming (undergraduate)

DESCRIPTION: This course introduces students to problem solving through the development of computer programs. The course teaches algorithmic patterns, describing problem solutions in high-level *pseudo code*, and implementing the solutions in a programming language.

DEVELOPMENT: I introduced performance-based learning by choreographing students to physically act out computer processes and interpretation of simple programs. I also adapted an exercise from improvisational theater, word-at-a-time storytelling, to have the class perform key-at-a-time programming.

SEMINARS
CREATED
AT GMU

CS 795 Interactive Computer Graphics and Creativity Support

I introduced this special topics course to cover research on interactive computer graphics tools for digital painting, sculpting, interior designing, video editing, architecture, etc., intended for non-experts as well as experts. Class is discussion and project-based.

SIGGRAPH Reading Group

I created this ongoing weekly seminar (2014–present) to discuss papers from SIGGRAPH and Transactions on Graphics, the premiere venue for computer graphics research. Every week a student guides attendees through a paper. I act as a naive questioner and deliver mini-tutorials on background material as needed and for context.

EVALUATIONS OF COURSES TAUGHT AT GEORGE MASON UNIVERSITY

Term	Course	Enrol.	Instructor Rating (average)				Course Rating (average)			
			me	dept	VSE	GMU	me	dept	VSE	GMU
Fall 2023	CS 325 Introduction to Game Design	35	University no longer provides overall “instructor” and “course” metrics.							
Fall 2023	CS 425 Game Programming I	28								
Spring 2023	CS 426 Game Programming II	15								
Fall 2022	CS 451 Computer Graphics	48								
Fall 2022	CS 425 Game Programming I	23								
Spring 2022	CS 325 Introduction to Game Design	42								
Spring 2022	CS 426 Game Programming II	11								
Fall 2021	CS 551 Computer Graphics	32	4.87	4.06	4.13		4.93	3.94	4.00	
Spring 2021	CS 451 Computer Graphics	50*	5.00	4.03	4.16	4.35	5.00	3.91	4.02	4.23
Spring 2021	CS 325 Introduction to Game Design	45*	3.50	4.03	4.16	4.35	3.75	3.91	4.02	4.23
Fall 2020	CS 551 Computer Graphics	26	4.50	4.10	4.15	4.29	4.50	3.96	4.02	4.16
Spring 2018	CS 662 Computer Graphics and Game Technologies	16	4.82	4.32	4.34	4.47	4.67	4.12	4.09	4.28
Spring 2018	CS 325 Introduction to Game Design	48	4.60	4.32	4.34	4.47	4.37	4.12	4.09	4.28
Fall 2017	CS 451 Computer Graphics	37	4.83	4.26	4.27	4.43	4.55	4.07	4.01	4.23
Spring 2017	CS 325 Introduction to Game Design	43	4.32	4.21	4.26	4.45	4.04	4.05	4.00	4.26
Spring 2016	CS 426 Game Programming II	7	4.86	4.11	4.25	4.44	4.86	3.97	4.00	4.24
Spring 2015	CS 325 Introduction to Game Design	44	4.74	4.14	4.23	4.42	4.47	3.96	3.98	4.21

EVALUATIONS OF COURSES TAUGHT AT GEORGE MASON UNIVERSITY

Term	Course	Enrol.	Instructor Rating (average)				Course Rating (average)			
			me	dept	VSE	GMU	me	dept	VSE	GMU
Fall 2014	CS 662 Computer Graphics and Game Technologies	15	4.79	4.17	4.24	4.39	4.50	3.91	3.97	4.18
Spring 2014	CS 325 Introduction to Game Design	42	4.97	4.18	4.25	4.41	4.82	3.97	3.99	4.21
Spring 2014	CS 795 Interactive Graphics and Creativity Support	4	4.75	4.18	4.25	4.41	4.75	3.97	3.99	4.21
Fall 2013	CS 112 Introduction to Computer Programming	43	4.50	4.30	4.25	4.38	4.17	4.12	4.01	4.18
Spring 2013	CS 325 Introduction to Game Design	38	4.73	4.29	4.26	4.41	4.48	4.13	4.03	4.22
Fall 2012	CS 662 Computer Graphics and Game Technologies	6	5.00	4.27	4.19	4.37	4.80	4.08	3.94	4.17

* Online course with ≤ 6 responses