

Jie Tan

Curriculum Vitae

Contact Information

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Areas of Expertise

Computer Graphics, Machine Learning, Robotics, Computer Vision and Computational Photography.

Programming Experience

C/C++, Python, Tensorflow, OpenGL, OpenCV, Eigen, Boost, MKL, TBB and Matlab.

Education

- 2009 - 2015 PhD of Computer Science at **Georgia Tech**.
Advisors: Greg Turk and Karen Liu
- 2006 - 2009 Master of Computer Science at **Shanghai Jiao Tong University**.
Advisor: Xubo Yang
- 2002 - 2006 Bachelor of Computer Science at **Shanghai Jiao Tong University**.

Work Experience

- 2017 - present **Software Engineer** at Google
Working on Deep Learning, Reinforcement Learning and Robotics at the Brain team.
- 2015 - 2016 **Core Member of Computational Photography** at Lytro Inc.
Built the first light field cinematographic camera. Implemented the pipeline for light field video processing. Conducted research on depth sensing, SLAM, 3D reconstruction and image segmentation.
- 2014 summer **Research Intern** at Adobe Creative Technology Lab.
Conducted research on automatic shape completion of indoor scans using Kinect.
- 2010 summer **Software Engineer Intern** at Pixar Animation Studio.
Participated in the development of a new animation tool: Menu 3.0. Worked on the animation pipeline for hair/cloth simulations.
- 2007 - 2009 **Founder and CTO** of start-up company 3diya.com.
Led and participated in the development of a website that supports 3D contents. Responsible for the software architecture and the real-time rendering engine.
- 2005 - 2006 **Graphics Engineer Intern** at Ubisoft Entertainment.
Developed new rendering features and special effects for the game "Brother in Arms: D Day" on PSP.
Developed and optimized the sound engine for the game "Ghost Recon 3" on Xbox and PS2.

Publications

- 2017 **Learning to Navigate Cloth using Haptics**, Alexander Clegg, Wenhao Yu, Zackory Erickson, Jie Tan, Karen Liu and Greg Turk. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).
- Preparing for the Unknown: Learning a Universal Policy with Online System Identification**, Wenhao Yu, Jie Tan, Karen Liu and Greg Turk. Robotics: Science and Systems (RSS).
- Large-Scale Evolution of Image Classifiers**, Esteban Real, Sherry Moore, Andrew Selle, Saurabh Saxena, Yutaka Leon Suematsu, Jie Tan, Quoc V. Le and Alexey Kurakin. International Conference on Machine Learning (ICML).
- Haptic Simulation for Robot-Assisted Dressing**, Wenhao Yu, Ariel Kapusta, Jie Tan, Charles C. Kemp, Greg Turk and Karen Liu. IEEE International Conference on Robotics and Automation (ICRA).
- 2016 **Simulation-Based Design of Dynamic Controllers for Humanoid Balancing**, Jie Tan, Zhaoming Xie, Byron Boots and Karen Liu. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).
- 2015 **Animating Human Dressing**, Alexander Clegg, Jie Tan, Greg Turk and Karen Liu. ACM Transactions on Graphics 34(4), SIGGRAPH.
- Computer Simulations Imply Forelimb-Dominated Underwater Flight in Plesiosaurs**, Shiqiu Liu, Adam Smith, Yuting Gu, Jie Tan, Karen Liu and Greg Turk, PLoS Computational Biology 11(12).
- 2014 **Learning Bicycle Stunts**, Jie Tan, Yuting Gu, Karen Liu and Greg Turk. ACM Transactions on Graphics 33(4), SIGGRAPH.
- 2012 **Soft Body Locomotion**, Jie Tan, Greg Turk and Karen Liu. ACM Transactions on Graphics 31(4), SIGGRAPH.
- 2011 **Articulated Swimming Creatures**, Jie Tan, Yuting Gu, Greg Turk and Karen Liu. ACM Transactions on Graphics 30(4), SIGGRAPH.
- Stable Proportional-Derivative Controllers**, Jie Tan, Karen Liu and Greg Turk. IEEE Computer Graphics and Application (CG&A), 31(4).
- A Multi-layer Grid Approach for Fluid Animation**, Jie Tan, Xubo Yang, Xin Zhao and Zhanxin Yang. Science in China Series F: Information Sciences, 54(11).
- 2009 **Physically-based Fluid Animations: A Survey**, Jie Tan and Xubo Yang. Science in China Series F: Information Sciences, 52(5).
- 2008 **Fluid Animations with Multi-layer Grids**, Jie Tan, Xubo Yang, Xin Zhao and Zhanxin Yang. ACM SIGGRAPH/Eurographics Symposium of Computer Animation (Poster).

Honors and Awards

- 2013 Foley Scholar.
- 2008 Tung OOCL Scholarship.
- 2006 Project Award in “Brother in Arms: D Day” at Ubisoft.
- 2004 and 2003 University Scholarship at Shanghai Jiao Tong University.
- 2002 Honored Class during undergraduate study.

Talks

- 2017 **Play with Minitaur**, Brain Robotics Team at Google NYC, USA.

- 2016 **Autonomous Virtual Characters**, Invited Talk, Brain Team at Google, USA.
- 2015 **Autonomous Virtual Characters**, Cornell CS Colloquium, Cornell, USA.
- 2014 **Learning Bicycle Stunts**, ACM SIGGRAPH, Vancouver, Canada.
- Learning Bicycle Stunts**, Foley Scholar Award Talk, Georgia Tech, USA.
- 2012 **Soft Body Locomotion**, ACM SIGGRAPH, Los Angeles, USA.
- Modeling Soft Body Animals**, Invited Talk, Shanghai Jiao Tong University, China.
- 2011 **Articulated Swimming Creatures**, ACM SIGGRAPH, Vancouver, Canada.
- Articulated Swimming Creatures**, Invited Talk, Shanghai Jiao Tong University, China.
- Articulated Swimming Creatures**, GVU Brown Bag, Georgia Tech, USA.

Professional Activities

- 2015, 2016 **Paper Committee Member**, ACM SIGGRAPH / Eurographics Symposium on Computer Animation.
- 2011 - 2017 **Conference Paper Reviewer**, SIGGRAPH, SIGGRAPH Asia, SCA, Eurographics, Pacific Graphics, Virtual Reality, Humanoid, CoRL.
- 2011 - 2016 **Journal Paper Reviewer**, Transactions on Graphics, Transactions on Visualization and Computer Graphics, Computer Graphics Forum, Computer & Graphics, Journal of Computer Science and Technology.

Selected Press Coverage

- 12/18/2015 **What Looks Like a Dinosaur But Swims Like a Penguin? It's the Meyerasaurus**, USA Today.
- 12/18/2015 **Ancient Marine Reptiles Flew through the Water**, Live Science.
- 12/17/2015 **Plesiosaurs Literally Flew through Oceans**, Discovery News.
- 08/11/2015 **Animating Clothes Is Tricky, Unless You Teach Animations to Dress Themselves**, The Verge.
- 08/10/2015 **This Is the Best 3D Animation of Putting on Pants Yet**, Motherboard.
- 08/15/2012 **Animators Bring Life to the Boneless**, Discovery News.
- 08/03/2012 **Animation Research Could Offer Control of Skeleton-free Characters**, R&D Magazine.
- 06/13/2011 **Different Strokes for Different Sea Critters**, New Scientist.