

# Jie Tan

## Curriculum Vitae

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### Contact Information

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### Areas of Expertise

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

### Programming Experience

C/C++, 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

- 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

- 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 - 2016      **Conference Paper Reviewer**, SIGGRAPH, SIGGRAPH Asia, SCA, Eurographics, Pacific Graphics, Virtual Reality, Humanoid.
- 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.