

ZIYE ZHOU

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Education

University of Pennsylvania • M.S. IN COMPUTER SCIENCE • GPA: 3.8/4.0 *Aug. 2014 - May. 2016 (Expected)*
Tsinghua University • B.S. IN AUTOMATION (GRADUATED WITH HONOR) • GPA: 91/100 *Sep. 2010 - Jul. 2014*

Work Experience

Philadelphia Game Lab *Philadelphia, USA*
SOFTWARE ENGINEER INTERN *Dec. 2015 - PRESENT*

- In charge of R&D and technology development, especially in the arts and immersive play. Building plug-in tools in **Unreal Engine** for better **Virtual Reality** development process.
- using languages and toolkits: C/C++, Unreal, Unity, OpenGL, etc.

Center of Human Modeling and Simulation, University of Pennsylvania *Philadelphia, USA*
RESEARCH FELLOW *Aug. 2014 - Sep. 2015*

- **Anatomically-based Modeling of Human Bodies**: Proposed a method to create a wide range of human body shapes from a single input 3D anatomy template. Simulated growth of muscles and fat. Paper accepted by **SIGGRAPH 2015**. Building the simulation system from scratch in C++, using Eigen Library and GLM as math tool and OpenGL as graphics engine.
- **Head TA of EAS 205**: In charge of the project grading, exam grading and Office Hours for the class.

Graphics Geometry Computing Group, Tsinghua University *Beijing, China*
RESEARCH ASSISTANT *Jul. 2012 - Jan. 2014*

- **Patch-Based Plenoptic Image Manipulation**: Focused on editing the light field captured by the **Lytro** camera and synthesize new light field data. Paper submitted to TVCG. Building the system from scratch in C++, using Qt as GUI and OpenCV as toolkit.
- **Fast Portrait Retrieval Program**: Developed an efficient portrait retrieval framework based on the extracted cloth region. Paper submitted to **FCS**. Building the system in C++, using Qt as GUI, OpenCV as toolkit and OpenMP as parallel API.
- **Intelligent Image Search System**: Developed an efficient search system based on the face detection and pedestrian detection algorithm. Building the system in C++, using Qt as GUI, OpenCV as toolkit and OpenMP as parallel API.

Megvii Inc. *Beijing, China*
RESEARCH INTERN *Jul. 2013 - Aug. 2013*

- Proposed one face-region segmentation method on the basis of grab-cut and embedded it into Megvii commercial face platform, using C++ as programming language and OpenCV as toolkit. This face platform is shown on the **ICCV 2013**.

Course Projects

- **GPU Softbody Simulation System (CIS 565 GPU Programming and Architecture)**: Developed a Softbody Simulation System using C++ and CUDA as programming language, OpenGL as Graphics Engine and GLM as math toolkit. Using techniques as Collision Detection, AABB Tree, Newton's Method, etc.
- **Data-driven Real Estate Pricing Estimation System (CIS 520 Machine Learning)**: Developed a System to estimate the price of real estate on the basis of processed real life database under Matlab. Using SVD to get the the principle component of the original features. Implemented Linear Regression, Naive Bayes(discretized and continuous), SVM and Neural Network as the core regression algorithm.
- **Distributed Text-Based Chat System (CIS 505 Software System)**: Developed a System under Linux using C++, TCP/IP, sockets, concurrency and multi-threading techniques. Implemented Token-Ring algorithm to enable leader election, and total ordering to dispatch messages. Integrated fault tolerance, fairness assurance, and stream load balancing.

Technical Skills

- Proficient in the software development using C, C++, Java, Python, CUDA, JavaScript
- Proficient in general toolkits, libraries: Matlab, Eigen, OpenMP, OpenCV, Boost, Qt, MySQL, XML, HTML, \LaTeX , and Git
- Proficient in graphics toolkits and platforms: OpenGL, WebGL, Maya, Unity, Unreal.

Publication

- Saito, Shunsuke and **Zhou, Zi-Ye** and Kavan, Ladislav, "Computational Bodybuilding: Anatomically-based Modeling of Human Bodies", *ACM Transaction on Graphics 34(4) [Proceedings of SIGGRAPH], 2015*