Yue Li

Email : yueli.cg@gmail.com
Mobile : +1 2678241616

EDUCATION

- **University of Pennsylvania** — Philadelphia, PA
  Master of Science in Engineering in Computer Graphics and Game Technology (with thesis) — *Aug. 2018 - Dec. 2019*

- **Beijing University of Technology** — Beijing, China
  Bachelor of Engineering in Software Engineering; GPA: 3.8 (Ranking 1/62) — *Sep. 2014 – Jun. 2018*

PUBLICATIONS

Li,Y., Ma, L., Fan, H., & Mitchell, K. (2018). Feature-preserving detailed 3d face reconstructionfrom a single image. In *Proceedings of the 15th acm siggraph european conference on visual media production* (1:11:9). London, United Kingdom: ACM **(Best Paper Award)**

Li,Y., Wiedemann, P., & Mitchell, K. (2019). Deep Precomputed Radiance Transfer for Deformable Objects. *Proceedings of the ACM on Computer Graphics and Interactive Techniques*, 2(1), 1-16. https://doi.org/10.1145/3320284

Tang, Y., Han, X., **Li,Y.**, Ma, L., & Tong, R. (2019b). Expressive facial style transfer forpersonalized memes mimic. *The Visual Computer*, 113

RESEARCH EXPERIENCE

- **Max Planck Institute for Informatics** — Saarbruecken, Germany
  Visiting Scholar, Advisor: Prof. Christian Theobalt and Dr. Thabo Beeler — *Mar. 2020 - Aug. 2020*
  - **Optimization Methods**: TBD.

- **University of Pennsylvania** — Philadelphia, PA
  Research Assistant, Advisor: Prof. Chenfanfu Jiang — *Jan. 2019 - present*
  - **Topology Optimization**: Using Hybrid Lagrangian-Eulerian method to address classic topology optimization problem. In preparation of a first author Siggraph submission.
  - **CIS563 Physics-based Animation**: Implementation of explicit and implicit material point method for snow simulation from scratch. (Fall 2018)

- **Disney Research** — Glendale, CA
  Research Intern, Advisor: Prof. Kenny Mitchell — *May. 2019 - Aug. 2019*
  - **Deep Learning in Rendering**:

- **Edinburgh Napier University**
  Research Intern, Advisor: Prof. Kenny Mitchell — *Jun. 2018 - Sep. 2018*
  - **Rendering and Deep Learning** : Using deep learning technique, convolution neural network, to account for deformable objects with global illumination for Precomputed Radiance Transfer with a significant amount of storage saving. A related work has been accepted to PACM CGIT.

- **Megvii Inc.(Face++)** — Beijing, China
  Research Intern, Leader: Dr. Liqian Ma, Haoqiang Fan — *Jul. 2017 - May 2018*
  - **Real-time 3D Detailed Face Reconstruction with Neural Network**: Using fully convolutional neural network to achieve 3D face reconstruction from a single RGB image real-time on PC with CPU or GPU and with lower resolution on mobile devices.
  - **Optimization-Based 3D Detailed Face Reconstruction from a Single Image**: An entire optimization-based 3D face reconstruction from a single RGB image with details. The system is robust under various illuminations, large poses and expressions. A related paper has been accepted by CVMP2018 and awarded the Best Paper Award.
  - **3D Animoji Avatar**: Reproduced results from a SIGGRAPH paper: Deformation Transfer for Triangle Meshes to transfer expression basis from Face Warehouse data to our customized 3D avatars.

- ○ **Asian Morphable Model**: Constructed a Asian morphable model from scanned data. Reproduced results from two SIGGRAPH papers: The Space of Human Body Shapes: Reconstruction and Parameterization from Range Scans and MAPS: Multi-resolution Adaptive Parameterization of Surfaces. Implemented a registration and deformation algorthm with an improvement adding to the aforementioned papers. Reproduced results from the paper: Example-Based Facial Rigging to produce expressions for each scanned individuals and using principal componet analysis to compute 46 muscle-based expression basis and an average face. Reproduced algorithm based on a PG paper: Guided Normal Mesh Filtering for denoising. In charge of all related data examination, cleaning and deformation processes for our scanned data.
- ○ **3D Landmark Annotation Tool**: Developed an easy-to-use, fast and robust 3D landmark annotation tool using OpenGL for 3D scanned mesh data and a related patent have been submitted to our intellectual property department.
- ○ **Other Experimental Works**: 2D orientation map generation based on the paper: Structure-Aware Hair Capture. 2D Facial hair generation based-on the paper: Coupled 3D Reconstruction of Sparse Facial Hair and Skin. Implemention of the paper: Geodesics in Heat: A New Approach to Computing Distance Based on Heat Flow. Normal map generation.

- **Tsinghua University** — Beijing, China
  Research Assistant — *Nov. 2016 - Apr. 2017*
  - ○ **Laplacian Deformation:**: Implemented a SIGGRAPH paper: Laplacian Surface Editing to registrate 3D scanned face to a template mesh consists only the back side of a head.
  - ○ **PolyCube Deformation:**: Solving optimization-based Poisson system for mesh deformation using face normal as soft constraints. Segmenting PolyCube models, extracting featured edges and vertices and rendering results utilizing Mitsuba.

Teaching Experience

- **CIS563 Physics-based Animation** Fall 2019 Teaching Assistant

Programming Skills

- **Languages**: C++, Python, Julia, Matlab   **Libraries**: Ipopt, Eigen, OpenMesh, Libigl, Keras, CGAL, Optix
  Softwares: Houdini, Maya, Meshlab, Mitsuba