# Jiajun Tan

**Programmer | Game Designer**

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## OBJECTIVE

Software engineer with computer graphics experiences seeking a position in virtual reality industry for 2020 summer.

## EDUCATION

**Carnegie Mellon University, Entertainment Technology Center (ETC)**                          Pittsburgh, PA
Master of Entertainment Technology                          May 2020
**Beihang University, Computer Science and Engineering**                          Beijing, China
Bachelor of Science in Computer Science                          July 2018

## RELEVANT COURSES

**Computer Graphics**                          Carnegie Mellon University, Pittsburgh, PA
                          Fall 2019
**Game Design**                          Carnegie Mellon University, Pittsburgh, PA
                          Spring 2019

## SKILLS

**Programming:** C++, OpenGL, C#, C, Java, Python, GLSL
**Tools:** Unity 3D, Unreal, Visual Studio, Perforce, Github
**Platforms:** Oculus Quest, Oculus Rift, HTC Vive, Meta 2, Magic Leap, Kinect 2, Android(unity), iOS(unity)

## RESEARCH EXPERIENCE

**State Key Laboratory of Virtual Reality**                          Beihang University, Beijing, China
Virtual Surgery                          Nov. 2016 – May 2018
- Implemented a soft body deformation method based on Position Based Dynamics with Shape Matching Constraint.
- Implemented a signed field particle generating method to represent the physics information of the soft body.
- Implemented a coupling mapping between geometric model and physical model.
- Implemented a soft body cutting simulation method based on Unit Duplicating concept using Delaunay Triangulation.

**Visual Computing Laboratory**                          University of California Berkeley, Berkeley, CA
Vision Correcting Display                          June 2017 – Sept. 2017
- Implemented an Edge-Augmenting Method focusing on the contour of an image to solve the information loss problem.
- Overwrote the original code based on pruning concept and repeat-pattern reduction to improve the efficiency by 99%.
- Implemented an anti-aliasing method using Fourier Transform to reduce the color fringing artifact from pixel arrangement.
- Implemented a camera-eye calibration system based on Elliptical Integral to provide the distance information.

## WORK EXPERIENCE

**Stitchbridge**                          Pittsburgh, PA
Software Engineer Intern                          June 2019 – Aug. 2019
- Built a 360 VR live action Laboratory Tutorial on Oculus Quest for Nano Fabrication Lab.
- Implemented authentication function using Google Firebase for Journey with Howard Chandler iOS app.
- Migrated Journey through the Camps VR project from Unity to Unreal with C++ and Blueprint.
- Designed a 3 images stitching method to make the iOS app's UI compatible with both iPhone 6-8 and iPhone x.

## ACADEMIC PROJECTS

**Building Virtual World**                          ETC, Carnegie Mellon University, Pittsburgh, PA
Programmer                          Fall 2018
- Participated in design of 5 virtual worlds, each completed in 2 to 3 weeks with different 5-person group.
- Developed with HTC Vive, Oculus, Kinect, and Meta 2.
- Improved communication, collaboration and iteration skills by cooperating with people from different background.
- Improved Unity 3D skills and C# skills for programming.
- Learned interest curve, indirect control and playtesting for game design.

**Houdini**                          ETC, Carnegie Mellon University, Pittsburgh, PA
Programmer                          Spring 2019
- Discovery project to explore the innovative use scenarios of Tap.
- Developed with Android mobile device and daydream VR.
- Strong iteration and rapid prototyping process dealing with an edging technology.
- Complete 11 prototypes and 2 audio based experiences.

## HOBBIES

**Bridge**
- Won Asian U20 Bridge Champion in 2016
- Represented China to attend World U20 Bridge Championship in 2016