

# ZHANG, TIANYI

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## ACADEMIC EXPERIENCE

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**East China University of Science and Technology**  
B.Eng. in *Computer Science*      *Sep. 2012 - Jun. 2016*

**East China University of Science and Technology**  
B.Arts. in *Art Design*      *Jan. 2013 - Jun. 2016*

**Guildhall at Southern Methodist University**  
Master's in *Interactive Technology* *Aug. 2017 - May. 2019*

## SKILL SET

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- C++
- Java
- C#
- Javascript
- Visual Studio
- Render Doc
- Pix
- Unreal 4
- Unity

## PROJECT EXPERIENCE

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**TEAM** **Teddy's Fluffy Adventure** **General Programmer**

- Account for the game design and be consulted for the art assets, maintaining GDD and TDD
- Making high-level system structure and core game mechanics, including implementing the direction guide line.

**TEAM** **Interstellar Racing League** **Graphic/Performance Programmer**

- Implement split-screen multiplayer with post-processing enabled in Unreal 4.
- Profile the build and provide performance advice to other team members.
- Deliver a document, *Unreal 4 Performance Guide*.

**SOLO** **Morph Engine** **Aug 2017 - Now**

- Build from scratch 3D Game engine to learn different aspects of a game engine.
- 200,000 lines of code edition in a one year.

**SOLO** **DirectX 12 Integration in Morph Engine** **May 2018 – Aug 2018**

- A rendering hardware interface layer inspired by NVIDIA's Falcor Engine.
- DirectX 12 was integrated into my personal Engine

**SOLO** **Thesis: Hybrid Rendering Pipeline and Denoising Method** **Jul 2018 – May 2019**

- Based on a deferred rendering pipeline, use ray tracing method to handle the ambient occlusion and shadow.
- Learn different frameworks to implement the ray tracer, including DXR, Compute shader, CUDA...
- Design and implement the framework so that frame data can get collected during the runtime for filter training.
- Apply filters to noisy ray traced buffer, compare and analyze the result.

## WORK EXPERIENCE

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**Alibaba Group** **Hangzhou, China**  
**Software Engineer Intern**, Dept. of Security/ Dept. of Information Platform *Jun.2015 – Sep.2015*

- J2EE backend development of the operating system, Ali Cloud Shield.
- Mainly responsible for several feature sets, and a tool to customize the packaging process for deployment.
- React frontend development of the inner recruitment system.

**DaoCloud.io** **Shanghai, China**  
**Full Stack Engineer**, Dept. of Development *Dec.2015 – Dec.2016*

- Full stack development including AngularJS frontend and Flask(Python) backend.
- Responsible for the development and maintenance of the DaoStyle component library.