

# Yiheng Zhu

SOFTWARE ENGINEER · RESEARCH & DEVELOPMENT ENGINEER

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## Experience

### DeepMotion, Inc.

Redwood City, California

RESEARCH AND DEVELOPMENT ENGINEER

Jul. 2017 - Present

- Researched and implemented a generalized way to create different motion styles from motion captured data for virtual characters, based on optimization methods.
- Involved in developing a multiprocessing framework using Message Passing Interface.
- Migrated the multiprocessing framework from local to cloud service, involved in a web-based pipeline using web-assembly.

### Robotics Institute, Carnegie Mellon University (Prof. Stelian Coros)

Pittsburgh, Pennsylvania

RESEARCH ASSISTANT

May. 2016 - May. 2017

- Researched a motion planning and control method for physics based character animation.
- Developed an innovative model using quadratic programming and planning method with OpenGL and ODE.
- Implemented a simplified model using bullet physics engine in Unity, and integrated with HTC Vive and Leap Motion. Presented in Google Tango workshop in Oct. 2016.

### Brookhaven National Laboratory (Dr. Elizabeth Worcester)

Upton, New York

GUEST RESEARCHER

Jan. 2014 - Mar. 2014

- Estimated the performance of ORKA, a proposing experiment to precisely measure the branching ratio of Rare Kaon Decay, using a customized large scale parallel simulation framework based on Geant4.

## Education

### Carnegie Mellon University

Pittsburgh, Pennsylvania

M.E.T. IN ENTERTAINMENT TECHNOLOGY

Aug. 2015 - Exp. May. 2017

- Relevant Course: Computer Graphics, Machine Learning, Computer Systems, Cloud Computing, Building Virtual Worlds.

### Tsinghua University

Beijing, China

B.ENG. IN ENGINEERING PHYSICS & B.A. (SECOND DEGREE) IN DIGITAL ENTERTAINMENT

Aug. 2010 - Jul. 2014

- Specialized in High Energy Physics.

## Projects

### ArithMagic (Intermediate Unit 1)

Pittsburgh, Pennsylvania

PROGRAMMER

Jan. 2017 - May. 2017

- Developed an educational game for eleven K-5 kids with special needs in East Franklin School District.
- Published on App Store in May. 2017, invited to be presented in Digital Media and Learning conference at UC Irvine in Oct. 2017.

### M-Lab (Merck KGaA)

Pittsburgh, Pennsylvania

PRODUCER & PROGRAMMER

Aug. 2016 - Dec. 2016

- Developed an learning experience in Virtual Reality for new Biopharma equipment users using Google Cardboard.

### Ikelos (Sony Playstation)

Pittsburgh, Pennsylvania

PROGRAMMER & 3D ARTIST

Jan. 2016 - May. 2016

- Explored unique gameplay for Virtual Reality by rapidly prototyped 13 prototypes with Google Cardboard and Dualshock Controller.
- Developed a flexible framework for instant feedback and created customized shaders according to visual development artists' concept art with Unity ShaderLab and the Cg.

## Extracurricular Activity

### VOCALOID China

Guangzhou, China

FREELANCE PROMO VIDEO MAKER

Sep. 2014 - Present

- Worked on several non-commercial songs as music video director with musicians, lyrics writers and concept artists.