

Biao Xie

Research Assistant on VR, level-design for four years.
Looking for opportunities in Game Production, VR/AR.

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EDUCATION

George Mason University

August 2020 - Present

Ph.D. in Computer Science

Advisor: Prof. Lap-Fai (Craig) Yu

GPA: 3.67

University of Massachusetts Boston

2016 - 2020

B.S. in Computer Science

GPA: 3.56

SELECTED PUBLICATIONS/PROJECTS

Exertion-Aware Path Generation

Wanwan Li*, [Biao Xie*](#), Yongqi Zhang, Walter Meiss, Haikun Huang, Lap-Fai Yu

ACM Transactions on Graphics (Proceeding of SIGGRAPH 2020)

- Simulated the Biking in VR using a modified workout bike equipped with Arduino and sensors.
- The resistance of the bike adjusted automatically depending on the slope of the terrain.
- By providing a terrain as an input, we can generate a path such that a user can perform exercise training in the virtual environment.

Pose-Guided Level Design

Yongqi Zhang*, [Biao Xie*](#), Haikun Huang, Elisa Ogawa, Tongjian You, Lap-Fai Yu

Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2019)

[Best Paper Honorable Mention Award](#)

- Created a pose matching game called *Just Exercise* using Unity.
- Utilized Microsoft Kinect SDK to support skeleton tracking feature.
- Devised an algorithm to produce a sequence of poses that achieved several movement goals.

Exercise Intensity-driven Level Design

[Biao Xie*](#), Yongqi Zhang*, Haikun Huang, Elisa Ogawa, Tongjian You, Lap-Fai Yu

IEEE Transactions on Visualization and Computer Graphics (TVCG), 2018

(Special Issue on IEEE Virtual Reality 2018)

[Featured in IEEE Xplore Innovation Spotlight](#)

- Created a level-design tool for VR games that considered player's physical exertion during VR gameplay. The designer can use this tool to create and evaluate whether the levels are too intensive for the player in VR.
- Mimics a "Temple Run"-like game in VR called *Reflex* using Unity and SteamVR plugins.
- The tool can generate levels with different exertion requirements, and tested on the player.

*Equal contributors

EXPERIENCE

Graduate Teaching Assistant

August 2020 - Present

George Mason University

- Lead discussion, and laboratory sections.
- Grade homework, projects, and related assignments.
- Course: Object-oriented Programming Java.

Undergraduate Research Assistant

November 2016 - May 2020

University of Massachusetts Boston

- Conduct research in virtual reality (VR) and human-computer interaction (HCI)
- Build prototypes to validate research ideas. Evaluate results through user study.
- Published 4 papers in top venues including ACM SIGGRAPH, CHI and IEEE VR.

Vice President

Fall 2016 - June 2018

Game Development Club

University of Massachusetts Boston

- Organize club gatherings and presentations
- Demonstrate the latest technology and game development tools
- Share game development ideas and news with club members

Guest Lecturer

CS410: Introduction to Software Engineering

February 2019

NURSING715: Health Informatics

November 2018

CS461: Computer Games Programming

April 2018

PROFESSIONAL SERVICES

Technical Paper Reviewer

IEEE Virtual Reality (VR)

2020

ACM CHI Conference on Human Factors in Computing Systems

2020

ACM Virtual Reality Software and Technology (VRST)

2019

IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR)

2019

Student Volunteer

ACM SIGGRAPH

2020

AWARDS/ HONORS

CRA Outstanding Undergraduate Researcher, Finalist

2020

The Ronald E. McNair Fellowship

2017 - 2020

Honorable Mention Award, ACM CHI 2019 (Top 5%)

May 2019

Oracle Undergraduate Research Fellowship

June 2017, 2018

Undergraduate Research Funds (URF)

2017 - 2019

SKILLS

Programming Languages: Java, C#, Python, C++

Game Development: Unity3D

Web Development: Wordpress, HTML

Video Game: Super Smash Bros.