Biao Xie

Self-motivated Software Developer.
Looking for opportunities in the Greater Boston area.

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EDUCATION

M.S. in Computer Science   August 2020 - Present
George Mason University
GPA: 3.67
Relevant courses: Software Specification and Construction, Software Testing and Analysis of Algorithms.

B.S. in Computer Science   2016 - 2020
University of Massachusetts Boston
magna cum laude

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

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*, <u>Biao Xie*</u>, 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

<u>Biao Xie*</u>, 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 generated levels with different exertion requirements, and tested on the player.

*Equal contributors

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 Oustanding 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

Web Development: Wordpress, HTML, CSS, Javascript

Languages: English, Chinese(Mandarin)