YIFAN LIU

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EDUCATION

Brown University, Providence, RI   **Jan 2017 – Current**

M.S., Department of Computer Science

The Pennsylvania State University, University Park, PA   **Aug 2010 – Dec 2016**

M.S. and Ph.D., Department of Architectural Engineering, GPA: 3.82/4.0

Chongqing University, Chongqing, China   **Sept 2006 – Jun 2010**

B.E., College of Construction Management and Real Estate, GPA: 86.64/100

WORK EXPERIENCE

Software Engineer Intern, Esri   **May 2017 – Aug 2017**

- Developed indoor mapping Android app for collecting facility and asset management data

Research Assistant, Computer Integrated Construction Research Group   **Jan 2011 – Dec 2016**

- Developed information exchange protocols for US National BIM Standards
- Developed Revit Plugin that exports IFC model that conforms with the energy analysis MVD
- Developed workflow and software packages to support design review in virtual reality
- Developed motion tracking capability for an immersive virtual reality display
- Developed a guide for planning and using of interactive workspaces

Software Engineer, IrisVR Inc.   **May 2015 – Sept 2015**

- Developed software to auto-convert Revit, SketchUp, and Rhino models into virtual reality models
- Developed high quality custom virtual reality models for Oculus Rift and Gear VR

Software Engineer, Philips North America Research Center   **May 2014 – Aug 2014**

- Developed an automatic cost estimation software for lighting fixtures in digital drawings

Building Information Modeling (BIM) engineer, Jacobs Engineering   **May 2013 – Aug 2013**

- Developed solution to populate COBie datasheet from various models and documents
- Developed workflow to improve real time rendering performance of building models

Technology Specialist, Energy Efficient Building Hub   **Sept 2012 – Dec 2012**

- Maintained and managed an immersive virtual reality display system
- Developed virtual reality models

BIM Technology Engineer, Jacobs Engineering   **May 2012 – Aug 2012**

- Developed and implemented workflow for BIM and facility management integration
- Created virtual mockups from building design models using Unity
- Created 4D models using Navisworks

SKILLS

- Programming: Python, Java, C#, C++, SQL, Linux
- Extensive development experience with Revit API, AutoCAD API, and Rhino API
- Modeling: Unity, Revit, SketchUp, 3ds Max, Navisworks, Rhino, AutoCAD

TEACHING EXPERIENCE

- Co-lecturer, AE 597 Virtual Facility Prototyping, The Pennsylvania State University, 2016
- Co-lecturer, AE 597 Virtual Facility Prototyping, The Pennsylvania State University, 2015
- Teaching Assistant, AE 597 Virtual Facility Prototyping, The Pennsylvania State University, 2014

PUBLICATIONS

- Castronovo F., Oprean D., Liu Y., and Messner J. (2017). "Application of Immersive Virtual Reality Systems in an Interdisciplinary Design Studio Course" In: Proc. Lean & Computing in Construction Congress (LC3), Vol. 1 (CIB W78), Heraklion, Greece, pp
- Liu, Y. "Evaluating Design Review Meetings that Use Virtual Reality for Post Occupancy Analysis". Ph.D. dissertation, May 2017
- Liu, Y., Messner, J., Leicht, R. "A Methodology to Evaluate the Impact of Using an Immersive Virtual Mock-up (IVM) for Design Reviews." Proceedings of the 15th International Conference on Construction Applications of Virtual Reality (2015).
- Liu, Y., Lather, J., and Messner, J. "Virtual Reality to Support the Integrated Design Process: A Retrofit Case Study." Computing in Civil and Building Engineering (2014): pp. 801-808.
- Yang, X., Liu, Y., Ergan, S., Akinci, B., Leicht, R., and Messner, J. "Lessons Learned from Developing Immersive Virtual Mock-Ups to Support Energy-Efficient Retrofit Decision Making." Computing in Civil Engineering (2013): pp. 210-217.
- Castronovo, F., Nikolic, D., Liu, Y., & Messner, J. "An evaluation of immersive virtual reality systems for design reviews." In Proceedings of the 13th International Conference on Construction Applications of Virtual Reality (2013).
- Liu, Y., Leicht, M., Messner, J. "Identify Information Exchanges by Mapping and Analyzing the Integrated Heating, Ventilating, and Air Conditioning (HVAC) Design Process." 2012 ASCE International Conference on Computing in Civil Engineering (2012).
- Lee, S., Liu, Y., Chunduri, S., Solnosky, R., Messner, J., Leicht, R., Anumba, C. "Development of a Process Map to Support Integrated Design for Energy Efficient Buildings." 2012 ASCE International Conference on Computing in Civil Engineering (2012).
- Liu, Y., Messner, J., Leicht, R., GPIC technical report. "Development of the Integrated Building Process Model." (2012).
- Liu, Y., Messner, J., Leicht, R., GPIC technical report. "Design Process Management Techniques for Building 661." (2011).

AWARDS AND HONORS

- Outstanding Graduate at Chongqing University
- China National Scholarship (top 0.2%)

- First-class Academic Excellence Scholarship (top 1%)