Bicheng Luo

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Education

Tsinghua University, Beijing, China *Sept. 2014–July 2017 (Expected)*
M.Eng. in Software Engineering, GPA: 95.8/100, Ranking: 2/156

Nanjing University, Nanjing, China *Sept. 2010–July 2014*
B.Eng. in Software Engineering, GPA: 4.37/5.0

Research Experience

DepVR: 360° Scene Representation Based on Implicit Depth, Tsinghua University *June 2016–Present*
◇ Proposed an approach to capture, store and synthesize the 360° scene with the implicit depth information:
- Designed the representation for the 360° scene using Image-Based Rendering
- Construct a set of capturing device to obtain the implicit depth of the real world scene
- Implemented a real-time synthesis method to demonstrate the VR scene on HMDs

Light Field Compression, Tsinghua University *Aug. 2014–May 2016*
◇ Proposed a method to record and represent the light field of objects in small storage:
- Designed a lightweight representation of light field
- Built up a mini light stage for recording the light field of real world objects
- Developed the applications for compression encoding and real-time decoding

Image Similarity Search System on Mobile Platform, University of Queensland *Oct. 2012–Dec. 2013*
◇ Implemented a content-based similarity search application
◇ Published a demo paper on Web Information System Engineering (WISE2013)
- Imagilar: A Real-Time Image Similarity Search System on Mobile Platform

Work Experience

Research Assistant, School of Software, Tsinghua University *Aug. 2014–Present*
◇ Responsible for algorithm design and implementation using C/C++, OpenGL, Direct3D or other common computer vision and graphics libraries(OpenCV, OpenMP, CUDA, etc.)
◇ Developed programs based on Arduino for hardware design and building
◇ Submitted a technical paper to IEEE Virtual Reality 2017

Software Engineering Intern, Windows and Devices Group, Microsoft *June 2016–Aug. 2016*
◇ Developed avaChat, a mobile and PC application for communicating with friends in 3D avatars
◇ Developed avaChat_Holo, the transplanted version of avaChat on Microsoft HoloLens
◇ Participated in Microsoft Hackathon 2016

Startup Co-founder & CTO, Leezee Co., Ltd. *Oct. 2014–Feb. 2016*
◇ Acted as the chief technical manager and led the team to develop Parocam, an iOS application which can detect the user's face to record creative videos
◇ Designed the backend architecture for Take, an iOS/Android application for online videos RSS

IT Analyst Summer Intern, Morgan Stanley *June 2013–Sept. 2013*
◇ Implemented a questionnaires administration platform using Java EE
◇ Visualized the flow chart of questionnaires in Adobe Flex
◇ Built authority and security mechanisms into the questionnaire platform with Spring Security

Research Intern, School of ITEE, University of Queensland *Oct. 2012–Feb. 2013*

◇ Designed the algorithm for real-time content-based image similarity indexing and retrieving
◇ Implemented a search system on mobile platform
◇ Completed and published a demo paper on Web Information Systems Engineering (WISE2013)

Teaching Experience

Teaching Assistant, TsinghuaX, edX *Mar. 2016–Present*
◇ Course: Computational Geometry: GIS, CAD, and Other Applications, 70240183x
  - or Chinese version in xuetangX
◇ Assisted the lecturer to maintain the whole progress of the online course
◇ Helped make lecture videos and subtitles; designed quiz, programming assignments and the final test
◇ Designed and graded course projects; delivered lecture videos and Q&A in online discussions

Teaching Assistant, Tsinghua University *Sept. 2015–Present*
◇ Course: Computational Geometry, 70240183
◇ Designed and graded course projects; delivered lectures and Q&A

Teaching Assistant, Tsinghua University *Sept. 2015–Jan. 2016*
◇ Course: Algorithm Analysis and Design, 74100033
◇ Graded the course assignments and the final test; delivered lectures and Q&A

Selected Projects

◇ **WebGLBrush**: The thesis project in Nanjing University, a WebGL-based 3D sculpture modeling system inspired by ZBrush
◇ **ImageProcessing**: A photo editing tool based on MFC and OpenCV, the course project for Digital Image Processing with features of luminance/contrast adjustment, blur and sharpen, face detection and beautifying, image impainting, etc.
◇ **PlanarSight**: A small game based on advanced computational geometry algorithms such as constrained Delaunay triangulation and visibility polygon construction

Honors & Awards

◇ First Class Scholarship, Tsinghua University (Top 2%) *2015*
◇ Graduate with Honor, Software Institute, Nanjing University (Top 10%) *2014*
◇ Excellence in the Nation Level, Innovation and Entrepreneurial Project at Nanjing University, Project ID: G1210284071 (Awarded to 18 projects out of more than 200) *2013*
◇ Full Scholarship of the Outstanding Undergraduate International Exchange Program, China Scholarship Council (Awarded to 1000 undergraduates nationwide) *2012,2013*
◇ The Third Prize in Innovation Cup, Software Institute, Nanjing University (Awarded to 4 teams out of 11) *2011*

Publication

[1] **Bicheng Luo**, Zi Huang, Hongyun Cai, Yang Yang. Imagilar: A Real-Time Image Similarity Search System on Mobile Platform. In *Web Information Systems Engineering (WISE 2013)*, Volume 8181 of the series Lecture Notes in Computer Science pp 535-538
Available at http://link.springer.com/chapter/10.1007%2F978-3-642-41154-0_47

Papers Submitted

[1] A first-author technical paper (title omitted due to double blind review) submitted to IEEE Virtual Reality 2017