

# Bicheng Luo

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🌐 <https://bichengluo.me/>

## Education

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**Columbia University**, New York, NY *Sep 2017–Dec 2018(Expected)*  
M.S. in Computer Science (Vision/Graphics Track)

**Tsinghua University**, Beijing, CN *Sep 2014–Jul 2017*  
M.Eng. in Software Engineering, GPA: 94.9/100, Ranking: 2/156

**Nanjing University**, Nanjing, CN *Sep 2010–Jul 2014*  
B.Eng. in Software Engineering, GPA: 4.37/5.0

## Professional Experience

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**Google**, Software Engineering Intern | Geo Platform *May 2018–Aug 2018*

- ◇ Developed UGC features for AR Place Discovery app:
  - Implemented Place Understanding based on Firebase ML Kit (Text/Landmark Recognition) and Cloud Vision API
  - Designed geometry algorithms to generate storefront facades in 3D space according to a single street view image
  - Utilized ARCore to anchor user generated place information with real world storefronts on Android
  - Implemented back-end services using Protocol Buffer and gRPC

**Microsoft**, Software Engineering Intern | Windows and Devices Group *Jun 2016–Aug 2016*

- ◇ Developed [avaChat](#), an application based on UWP and Unity3D for chatting with friends in 3D avatars
- ◇ Developed [avaChat\\_Holo](#), a transplanted version of avaChat on Microsoft HoloLens

**Leezee**, Startup Co-founder & CTO *Oct 2014–Feb 2016*

- ◇ Built an iOS application utilizing face detection to create interational short videos:
  - Integrated face detection with GPUImage
  - Wrote GLSL shaders for GPU-accelerated video processing
  - Utilized MBaaS framework (Parse) to implement social network services
  - Built storage solution for short videos on Amazon S3 with network modules using AFNetworking

**Tsinghua University**, Research Assistant & Teaching Assistant | School of Software *Aug 2014–Jul 2017*

- ◇ [Parallax360: Stereoscopic 360° Scene Representation for Head-Motion Parallax](#)
  - **TVCG** Special Issue on **IEEE VR 2018**
  - Invited talk for **SIGGRAPH 2018** IEEE TVCG Special Session on Virtual and Augmented Reality
  - Construct a set of [capture device](#) based on Arduino to obtain implicit depth of real world scenes
  - Implemented a real-time synthesis method to demonstrate VR scenes on Oculus Rift using Direct3D/HLSL
- ◇ Worked as a teaching assistant for Algorithm Analysis and Design, and [Computational Geometry](#)

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

- ◇ Designed algorithms for real-time content-based image similarity indexing and retrieving
- ◇ Developed an iOS app with Java EE backend and published a demo paper on **WISE2013**
  - [Imagilar: A Real-Time Image Similarity Search System on Mobile Platform](#)

## Selected Projects

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**ARecorder**, Columbia University *Apr 2018–May 2018*

- ◇ A Unity+Vuforia based video recorder app
- ◇ Designed for taking video clips while in the midst of an experiment with users' hands covered in sticky plaster

**PR2-GOGR**, Columbia University *Mar 2018–May 2018*

- ◇ An approach of object geometry reconstruction using Willow Garage's PR2

**ROI Constraint UNIT**, Columbia University *Apr 2018–May 2018*

- ◇ A modified Unsupervised Image-to-Image Translation with region of interest configuration

## Technical Skills

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- ◇ Programming Languages: C/C++, Java, Objective-C, C#, Python, JavaScript
- ◇ Tools and Technologies: iOS Development, OpenCV, OpenGL/WebGL/GLSL, Direct3D/HLSL