

PEI-HSUAN TSAI

peihsuantsai.com | pt379@cornell.edu | 917-355-3226 | 1 E Loop Road, Apt. 11G-1, NY, NY 10044

EDUCATION

- 2017 - 2018 **Cornell Tech At Cornell University**, New York City, NY
- Master of Engineering, Computer Science
- 2010 - 2016 **National Taiwan University**, Taipei, Taiwan
- Master of Science, Networking and Multimedia, **GPA: 4.0**, Advisor: Prof. Ming Ouhyoung
 - Bachelor of Business Administration, Information Management, GPA: 3.77
 - Creativity & Entrepreneurship Program

WORKING EXPERIENCE

- 2015 **Toppano Inc.**, Part-Time Software Engineer
- Developed 360° panorama viewing system on mobile devices by using three.js, allowing users virtually walk through different panorama scenes with transition effects
- 2012 - 2013 **Carpo**, Co-Founder & Front-End Developer
- Established the largest carpooling matchmaking platform with 4000+ members and 500+ monthly active users, featuring ranking system and location-based service by using Google Maps API
 - Increased 200%+ growth rate in website traffic after conducting digital marketing campaigns by using Google Adwords, Google Analytics, and focus group research

SELECTED PROJECT

- 2017- Present **Bloomberg L.P. x Cornell Tech**, Company Challenge (JavaScript, React Native, iOS)
- Developed a matchmaking platform on mobile device by using React Native
 - Motivated professionals to do volunteer during their free time by designing a gamification UI
- 2014 - 2016 **Scope+** (**Best Demo Award** in UIST, HCI top conference) (Unity, C#, JavaScript, 3D Printing, Autodesk)
- Built the first augmented reality microscope system in the world used for surgical training with object tracking, interactive guidance, and remote control function for educational use [\[LINK\]](#)
 - Improved head-mounted display to get extremely high pixel density of 559.4 ppi in AR application
 - Developed an image sharing function with Facebook Graph API and built the official website on Amazon AWS
- 2015 - 2016 **Dome+** (**IICM 2016 Master Thesis Award**) (Python, JavaScript, three.js, Unity, C#, 3D Printing)
- Constructed dome-shaped VR headset with ultra wide field-of-view by integrating 9 panels display with camera calibration and new rendering methods
 - Designed 3 VR applications by using three.js and Unity
 - Conducted user research to enable users to feel natural 3D effect without using binocular parallax
- 2014 - 2016 **3D Printing Project**, Ministry of Science and Technology of Taiwan (Python, Graphics, 3D Printing)
- Developed GEAR module plug-in of open-source CAD software "FreeCAD" in Python for children to create and modify models for 3D printing in the digital art class
 - Deployed CAD software on Github for practical use by teachers in digital art courses at two schools

PUBLICATIONS

- July 2016 *A Modified Wheatstone-Style HMD Prototype for Narrow Field-of-View Video See-Through Augmented Reality*
- ACM SIGGRAPH 2016 Posters (**1st Author**)
- Nov 2015 *Scope+ : A Stereoscopic Video See-Through Augmented Reality Microscope*
- ACM UIST 2015 Demonstrations (**Best Demo Award**) (3rd Author)
 - ACM SIGGRAPH 2015 VR Village (**Immersive Realities Contest Top 10**) (3rd Author)
- Nov 2015 *Video See-Through Augmented Reality Stereo Microscope with Customized Interpupillary Distance Design*
- ACM SIGGRAPH Asia 2015 Posters (**1st Author**)

SKILLS

- Programming Python, JavaScript, C++, C, C#, Java, HTML, CSS, Matlab, LaTeX
- Web/Mobile Node.js, three.js, React Native, jQuery, Bootstrap, Amazon EC2
- Other Virtual Reality, Web Application, Image Processing, GIT, Unity, Arduino, Prototyping, 3D Printing, Laser Cutting