

SHAoyu CHEN

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EDUCATION

New York University

Ph.D. in Computer Science

Advisor: Prof. Claudio Silva

Research interest: Virtual Reality / Augmented Reality, Data Visualization

New York, NY
Sep 2017 - May 2023 (Expected)

GPA: 3.950/4.000

Hong Kong University of Science and Technology (HKUST)

B.Eng. in Computer Science

First Class Honors, Academic Achievement Award (Top 1%)

Hong Kong
Sep 2013 - May 2017

GPA: 3.941/4.300

PROFESSIONAL EXPERIENCE

Meta

Software Engineer Intern

Seattle, WA
May 2022 - Aug 2022

- Worked on a product which allows users to interact with apps using natural language and voice.
- Implemented an end-to-end automatic testing framework for HTTP APIs of the product using Go and Python.
- Set up continuous test runs using Meta's test infra to monitor service quality of the HTTP APIs.
- Developed a Web UI to allow users create and manage tests for the testing framework with React and Hack.
- Used Hack to create new HTTP APIs of the product which given JSON output of its Unity plugin, creates new app, returns the differences between Unity and app states and retrains the app with updated utterances.

Adobe Research

Research Intern

San Jose, CA
May 2020 - Aug 2020

- Proposed a gaze-contingent perceptual model based on foveation, saccade, and popping to depict spatio-temporal visual behaviors during progressive streaming, including static quality acuity and dynamic change suppression
- Proposed a perceptually optimized high-quality and low-latency 3D immersive streaming method, supporting various 3D computer graphics data formats and accelerated by neural network, using C++, Python, OpenGL, OpenVR.

DJI

Research Intern

Shenzhen, China
Jun 2016 - Aug 2016

- Developed automated systems for unmanned aerial vehicles to follow specified objects and avoid obstacles using neural networks and reinforcement learning with MATLAB, C++ and OpenCV.
- Debugged the simulator that allows unmanned aerial vehicles to fly in a virtual environment as a pilot user

NYU Visualization and Data Analytics Research Center (VIDA)

Research Assistant

New York, NY
Sep 2017 - Present

- Developed Transparent, Interpretable, and Multimodal Personal Assistant on HoloLens 2 with C++ and Unity.
- Proposed a novel deformation approach that projects city onto a non-planar view-dependent surface to overcome the location/navigation limitations caused by occlusion for city scenes in virtual reality using WebGL and WebVR.
- Performed user studies with architects/urban planning professionals and general users for the proposed approach.

PUBLICATION

- **Shaoyu Chen**, Budmonde Duinkharjav, Xin Sun, Li-Yi Wei, Stefano Petrangeli, Jose Echevarria, Claudio Silva, Qi Sun. "Instant Reality: Gaze-Contingent Perceptual Optimization for 3D Virtual Reality Streaming". In IEEE Transactions on Visualization and Computer Graphics (Proceeding of IEEE VR), 2022.
- **Shaoyu Chen**, Fabio Miranda, Nivan Ferreira, Marcos Lage, Harish Doraiswamy, Corinne Brenner, Connor Defanti, Michael Koutsoubis, Luc Wilson, Kenneth Perlin, Claudio Silva. "UrbanRama: Navigating Cities in Virtual Reality". In IEEE Transactions on Visualization and Computer Graphics, 2021.
- Mingqian Zhao, Yijia Su, Jian Zhao, **Shaoyu Chen**, and Huamin Qu. "Mobile Situated Analytics of Ego-Centric Network Data". In SIGGRAPH Asia Symposium on Visualization, 2017.

SKILLS

Programming

Python, C++, C, JavaScript, MATLAB, Go, PHP

Machine Learning

scikit-learn, TensorFlow, PyTorch, XGBoost, OpenCV

Framework

OpenGL, WebVR, OpenVR, Eigen, NumPy, SciPy, Pandas