

Ali Bozorgian

 Cambridge  contact@alibozorgian.com  07570 236296  alibozorgian  alibzr

Expertise

Intimate knowledge of deep learning models for computer vision, and computer graphics

In-depth understanding of camera ISP pipeline, computational imaging, and HDR imaging

Proficient understanding of optics, spatial and temporal vision, eye-movements, and visual psychophysics

Experience

Huawei R&D, AI Researcher

Cambridge, UK
Mar 2025 – present

- Image quality and video quality assessment for gaming
- 3D computer vision, novel view synthesis, and inverse rendering
- Variable frame rate rendering for computer graphics applications
- Camera ISP pipeline, color and HDR imaging

Apple, Camera Algorithm Engineer Intern

Cambridge, UK
Aug 2023 – Dec 2023

- White balance
- Camera ISP pipeline

University of Cambridge, Visiting Researcher

Cambridge, UK
Apr 2023 – Aug 2023

- Variable Frame Rate (VRR) flicker detection model

Education

Ph.D. Norwegian University of Science and Technology, Computer Science

Oct 2020 – Aug 2024

- Thesis: Contrast sensitivity in peripheral vision for color imaging
- Proposed contrast sensitivity and image quality metrics for immersive displays
- Curated a subjective image quality assessment dataset for virtual reality

M.Sc. Tehran Polytechnic, Color Science

Sept 2017 – Apr 2020

- Thesis: Enhancement and evaluation of chromatic adaptation models
- Optimization of chromatic adaptation transform matrix
- Conducted psychophysical experiments to evaluate cues for illuminant estimation

B.Sc. Tehran Polytechnic, Engineering

Sept 2013 – Sept 2017

Publications

ElaTCSF: a temporal contrast sensitivity function for flicker detection and modeling variable refresh rate flicker

2024

Yancheng Cai, Ali Bozorgian, Maliha Ashraf, Rafal Mantiuk

[10.1145/3680528.3687586](https://doi.org/10.1145/3680528.3687586) (SIGGRAPH ASIA)

Modification and evaluation of the peripheral contrast sensitivity function models

2021

Ali Bozorgian, Marius Pedersen, Jean-Baptiste Thomas

[10.1364/JOSAA.445234](https://doi.org/10.1364/JOSAA.445234) (JOSA A)

Subjective Quality Assessment of Foveated Omnidirectional Images in Virtual Reality

2024

Ali Bozorgian, Marius Pedersen, Jean-Baptiste Thomas, Mohamed-Chaker Larabi

[10.1109/OJID.2025.3556364](https://doi.org/10.1109/OJID.2025.3556364) (IEEE Open Journal on Immersive Displays)

Spatiotemporal contrast sensitivity functions, predictions for the critical flicker frequency

2024

Ali Bozorgian, Maliha Ashraf, Rafal Mantiuk
[10.2352/EI.2024.36.11.HVEI-209](#) (Electronic Imaging)

The Effect of Peripheral Contrast Sensitivity Functions on the Performance of the Foveated Wavelet Image Quality Index

2022

Ali Bozorgian, Marius Pedersen, Jean-Baptiste Thomas
[10.2352/lim.2022.1.1.03](#) (London Imaging Meeting)

Projects

Subjective Image Quality Assessment in Virtual Reality

[github.com/alibzr/VRIQA](#)

- Developed a Unity application for participants to view and evaluate 360-degree images using controllers, with eye-tracking data recorded
- Tools Used: Unity, C#, Varjo Eye-Tracking API

Viewport extractor for Varjo virtual reality headsets

[github.com/alibzr/varjo-viewport-extraction](#)

- Developed a C++ app for capturing VR headset screenshots for an image quality dataset, consisting of two modules: one renders 360-degree images in Unity and controls camera direction, while the other captures and saves screenshots using DirectX 12 ScreenGrab library.
- Tools Used: C++, Varjo Native SDK, DirectX 12, Unity, C#, Socket Programming

Technologies

Programming Languages: Python, C++, C#, MATLAB

Machine Learning Libraries: PyTorch, Fastai, Scikit-learn

Other: Linux, Docker, Git, OpenCV, Psychtoolbox, Psychopy, ISETBIO