Xiaoyang Bai

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RESEARCH INTERESTS

My research interests span the fields of Computer Vision, Computer Graphics and Computational Optics. I am particularly attracted to topics related to deep learning-based optics, event camera, AR/VR and generative models.

EDUCATION

University of Illinois Urbana-Champaign Champaign, IL
Ph.D. in Computer Science *Aug 2018 − Dec 2023*
- **Advisor:** Prof. Alexander Schwing
- **Mentors:** Prof. Viktor Gruev and Prof. David Forsyth

University of California, Berkeley Berkeley, CA
B.A. in Computer Science, Applied Mathematics, Cognitive Science and Linguistics *Aug 2014 − Aug 2018*

EXPERIENCES

Postdoctoral Fellow 2024 −
Department of Electrical and Electronic Engineering, the University of Hong Kong *Hong Kong*

Graduate Research Assistant 2018 − 2023
University of Illinois Urbana-Champaign *Champaign, IL*

Research Scientist Intern, Genoa May 2022 − Aug 2022
Amazon Studio LLC *Culver City, CA*
- **Mentor:** Naveen Nair
- Worked on video prediction using VQ-VAE and Transformer

AI Research Intern, Machine Intelligence Jun 2020 − Aug 2020
Apple Inc. *Remote*
- **Mentor:** Oncel Tuzel
- Worked on generative modeling of sequential data

PUBLICATIONS

Learning a global underwater geolocalization model with Sectoral Transformer. Xiaoyang Bai, Zhongmin Zhu, Alexander Schwing, David Forsyth, Viktor Gruev. In *Optics Express* 32.12 (2024)

Polarization-based underwater geolocalization with deep learning. Xiaoyang Bai, Zuodong Liang, Zhongmin Zhu, Alexander Schwing, David Forsyth, Viktor Gruev. In *eLight* 3.1 (2023)

Angle of polarization calibration for omnidirectional polarization cameras. Xiaoyang Bai, Zhongmin Zhu, Alexander Schwing, David Forsyth, Viktor Gruev. In *Optics Express* 31.4 (2023)

TALKS

Polarization-Based Underwater Geolocalization with Neural Network Models, University of Hong Kong (2024)

TEACHING

Teaching Assistant
University of Illinois Urbana-Champaign *Champaign, IL*
- **CS498-AML** (Applied Machine Learning): Fall 2018, Fall 2020
- **CS446** (Machine Learning): Spring 2020