

# Jeff XING

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## Core Expertise

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- **Camera ISP / AIISP:** pipeline and kernel design; heterogeneous compute (ISP/CPU/GPU/VPU); IQ tooling and evaluation.
- **IQ control:** 3A/3A+, HDR (multi-frame / tone mapping), light-source estimation, shading correction, color correction, enhancement, dehaze, denoise.
- **3D Vision:** stereo/depth camera calibration, on-chip calibration, depth sensing, real-time reconstruction, surround-view perception systems.

## Work Experience

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### Intel China Research Center

2020.04 – Present

Senior Computer Vision Algorithm Engineer

- **ISP/AIISP roadmap and product delivery for Intel client SoCs (11th Gen to Core Ultra series).**
  - Work on the planning and execution of ISP pipeline and kernel-algorithm roadmap; maintained and evolved the algorithm stack and corresponding software architecture.
  - Designed and shipped ISP algorithms on a hybrid compute architecture (ISP/CPU/GPU/VPU), including: geometric transform / distortion correction, color correction, HDRNet, edge enhancement, dehazing, multi-frame HDR fusion, and denoising.
  - Drove continuous evolution of **IQ control / 3A+** (AE/AWB/AF, light-source estimation, DVS, shading correction, tone mapping, HDR) and associated tooling; supported high-volume deployments on Intel-powered consumer devices.
  - Prototyped an **AI-agent-based** architecture for ISP tuning and IQ control to reduce manual tuning loops and improve iteration efficiency.
- **ARM-based ISP SoC development for AMR / automotive-grade vision.**
  - Delivered next-generation on-chip smart auto-calibration algorithms and 3D reconstruction/mapping components for RealSense® depth cameras; contributed to depth-estimation IP migration and quality improvements.
  - Designed the algorithm + system architecture for a 360° surround-view solution and worked with software teams for integration and production readiness.
  - Translated machine-vision perception requirements into ISP pipeline design and IQ-control strategies for robust downstream vision models.
  - Built concept prototypes for a 360° depth camera system and participated in integrating a 3D reconstruction simulation platform.

### National University of Singapore

2019.06 – 2020.01

Research & Teaching Assistant

- Research topics: deep-learning-based surrogate modeling and simulation acceleration, sparse sampling, and learning-aided image processing; published 3 conference papers.
- Teaching assistant for CS3243 *Artificial Intelligence*; ran tutorials and supported assignments and student projects.
- Selected projects: large-scale satellite-image mapping automation, few-shot image classification/detection, and DL-based flood simulation forecasting.

### Intel Corporation

2018.06 – 2018.12

Research Intern

- Researched model-training acceleration under large-scale data/bandwidth constraints; explored semantic segmentation and deep-learning inference acceleration frameworks.

### Shanghai Jiao Tong University

2016.07 – 2018.12

Research Associate

- Theoretical research on applying reinforcement learning, stochastic geometry, and convex optimization to large-scale communication/information networks; published 2 top-tier conference papers and granted 1 China patent.

## Education

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Master of Computing (Computer Science), GPA 4.3/5.0

National University of Singapore, 2019.01 – 2020.01

## Publications & Patents

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- A Light Source Estimation Method by \*\*\*, **Jeff XING**, Hongjiang ZHENG, Xin CHANG, Songmin YAN, Yumin LIU, WIPO Patent Application No.\*\*\*, 2026.
- Shading Correction Method by \*\*\*, Hongjiang ZHENG, **Jeff XING**, Xin CHANG, Songmin YAN, Yumin LIU, WIPO Patent Application No.\*\*\*, 2026.
- WFOV Rendering Method by \*\*\*, Songmin YAN, Hongjiang ZHENG, **Jeff XING**, Xin CHANG, Yumin LIU, WIPO Patent Application No.\*\*\*, 2026.
- Tone Mapping Method for \*\*\*, Xin CHANG, Hongjiang ZHENG, **Jeff XING**, Yumin LIU, Songmin YAN, WIPO Patent Application No.\*\*\*, 2026.
- \*\*\* based flicker estimation method, **Jeff XING**, Hongjiang ZHENG, Xin CHANG, Songmin YAN, Yumin LIU, WIPO Patent Application No.\*\*\*, 2025.
- Low Power Multi camera calibration method by \*\*\*, **Jeff XING**, Hongjiang ZHENG, Xin CHANG, Songmin YAN, Yumin LIU, WIPO Patent Application No.\*\*\*, 2025.
- \*\*\* based Autoexposure and Tone Mapping Method, Xin CHANG, Hongjiang ZHENG, **Jeff XING**, Yumin LIU, Songmin YAN, WIPO Patent Application No.\*\*\*, 2025.
- Depth Estimation Method for \*\*\*, Songmin YAN, Hongjiang ZHENG, **Jeff XING**, Xin CHANG, Yumin LIU, WIPO Patent Application No.\*\*\*, 2025.
- A Fast Auto Exposure Method using \*\*\*, Hongjiang ZHENG, **Jeff XING**, Xin CHANG, Songmin YAN, Yumin LIU, WIPO Patent Application No.\*\*\*, 2025.
- Adaptive technology for reducing 3A algorithm computation complexity, Hongjiang ZHENG, Yu Xia, Yuanyuan WANG, **Jeff XING**, Ilya Sister, U.S. Patent Application No. 18/345,593, 2023.
- **Surrogate Modelling and Simulation with Neural Networks**, Zhang Ruixi, Remmy Zen, **Jeff XING**, Dewa Made Sri Arsa, Abhishek Saha, Stéphane Bressan. *Proceedings of 24th Pacific Asia Knowledge Discovery and Data Mining. PAKDD 2020.*
- Building Extraction from Google Earth Images, **Jeff XING**, Zhang Ruixi, Remmy Zen, Dewa Made Sri Arsa, Ismail Khalil, Stéphane Bressan. *Proceedings of ACM International Conference on Information Integration and Web-based Applications & Services. iiWAS 2019.*
- Microbiological Water Quality Test Results Extraction from Mobile Photographs, **Jeff XING**, Zhang Ruixi, Remmy Zen, Ngurah Agus Sanjaya ER, Laure Sioné, Ismail Khalil, Stéphane Bressan. *Proceedings of ACM International Conference on Information Integration and Web-based Applications & Services. iiWAS 2019.*
- 文件发送、接收方法及终端, Ying CUI, Sian JIN, **Jeff XING**, Guanbin XING, Hui LIU, CN202520252025, 2017.
- **Temporal-spatial request aggregation for cache-enabled wireless multicasting networks**, **Jeff XING**, Ying Cui, Vincent Lau. *Proceedings of IEEE Global Communications Conference. Globecom 2017.*
- **Trusted content delivery in large-scale SIC-enabled wireless networks**, Ying Cui, Dongdong Jiang, **Jeff XING**, Jemin Lee. *Proceedings of IEEE 18th International Workshop on Signal Processing Advances in Wireless Communications. SPAWC 2017.*