

Xiaofeng Deng

Research interests: Surgical Robot, Medical Imaging

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EDUCATION

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- **B.Eng., Zhejiang University** Hangzhou, China
College of Control Science and Engineering; GPA: 3.49/4.00 September 2016 - June 2020
 - **MPhil., Zhejiang University** Hangzhou, China
College of Optical Science and Engineering; Averaged grades: 86.25/100 September 2020 - March 2023
 - **PhD. Candidate, The Chinese University of Hong Kong** Hong Kong SAR, China
Department of Electronic Engineering; RPAI Lab August 2023 - Now
 - **Exchange student, University of Illinois Urbana-Champaign** Champaign, USA
Research assistant and Courses in Medical Image Analysis (98.40%) July 2018 - November 2018

PUBLICATIONS

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- **Xiaofeng Deng**, Defu Chen, Bowen Liu, Xiwan Zhang, Haixia Qiu, Wu Yuan and Hongliang Ren*, “Fine-grained Classification Reveals Angiopathological Heterogeneity of Port Wine Stains Using OCT and OCTA Features”, *IEEE Journal of Biomedical and Health Informatics*, 2025.
 - **Xiaofeng Deng**, Kaiyuan Liu, Tiepei Zhu, Dayou Guo, Xiaoting Yin, Lin Yao, Zhihua Ding and Peng Li*, “Dynamic inverse SNR-decorrelation OCT angiography with GPU acceleration”, *Biomedical Optics Express*, 2022.
 - Fang Zheng, **Xiaofeng Deng**, Qi Zhang, Jingliang He, Peng Li, Zhou Jian, and Xiaoyun Fang*, “Advances in Swept-source Optical Coherence Tomography and Optical Coherence Tomography Angiography”, *Advances in Ophthalmology Practice and Research*, 2023.
 - Yun Tang, Xufei Chen, **Xiaofeng Deng**, Junna Zhang, Liping Liu, and Chixin Du*, “Effects of 0.01% Atropine Eye Drops on Horizontal Meridian Choroidal Thickness Profile in Low to Moderate Myopic Children”, *Journal of Clinical and Nursing Research*, 2025.
 - Lin Yao, Yuan Zhou, Kaiyuan Liu, Xiaoting Yin, **Xiaofeng Deng**, Zhihua Ding and Peng Li*, “Endoscopic OCT angiography using clinical proximal-end scanning catheters”, *Photonics*, 2022.
 - Huakun Li, Kaiyuan Liu, Tongtong Cao, Lin Yao, Ziyi Zhang, **Xiaofeng Deng**, Chixin Du, and Peng Li*, “High performance OCTA enabled by combining features of shape, intensity, and complex decorrelation”, *Optics Letters*, 2021. (Editors’ Pick).
 - Huakun Li, Kaiyuan Liu, Lin Yao, **Xiaofeng Deng**, Ziyi Zhang, and Peng Li*, ID-OCTA: OCT angiography based on inverse SNR and decorrelation features, *Journal of Innovative Optical Health Sciences*, 2021.
 - Peng Li, **Xiaofeng Deng**, “An OCTA image optimization method and device based on GPU real-time processing” (National Invention Patent, ZL 2022 1 0600548.4).

RESEARCH EXPERIENCES

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- **OCT-guided robotic laser surgical system for skin diseases**: Build up a robotic system for automatic OCT/OCTA detection and automatic laser therapy for port wine stains and other dermatology diseases. Including large area OCT/OCTA imaging on skin surface & rapid generation of surgical plan according to 4D OCT information & stable, trackable, relocatable laser irradiation in dynamic situations (supervised by Prof. Hongliang Ren, 2023-Now).
 - **Functional OCTA in ophthalmic diseases**: Established imaging and spatial registration algorithm for intraoperative OCTA and real-time hemodynamics monitoring & proposed auto-optimized angiography threshold based on designed angiogram quality index & quantification of hemodynamic and morphology using deep learning (supervised by Prof. Peng Li, 2020-2023).
 - **Adaptive terrestrial-aerial quadrotor for minefield detection**: Designed and built a quadrotor UAV with mine-sweeping ability, including flight control algorithms, target detection and tracking, visual servoing and overall planning (supervised by Prof. Chao Xu and Prof. Fei Gao, 2019-2020).

HONORS AND AWARDS

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- National Gold Award at The 5th China College Student ‘Internet+’ Innovation and Entrepreneurship Competition (Team leader, October 2019).
 - First-class Scholarship for Research and Innovation of Zhejiang University (3 consecutive times, 2017-2020).
 - Optica Best Oral Presentation Awards in International Postgraduate Photonics Forum (October 2022).
 - Outstanding Graduating Student of Zhejiang University and Zhejiang Province (June 2016 & June 2023).