Bingyuan **Liu**

RESEARCHER AND ENGINEER · MACHINE LEARNING AND COMPUTER VISION

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Summary

I am a Research Associate at École de technologie supérieure (ETS), Canada. My research interests include deep learning, computer vision, and medical imaging. I have well-balanced academia and industry experience for more than 10 years, with 10+ published papers in the related conferences and journals, e.g., CVPR, CVIU, ACCV, etc, and experience of designing and developing enterprise-level applications, such as image retrieval, optical character recognition (OCR) and recommendation system.

Work Experience

École de technologie supérieure (ETS)   *Montreal, Canada*
RESEARCH ASSOCIATE   *Nov. 2020 - Present*
- Research interests include deep learning, computer vision, and medical imaging.
- Responsible for providing deep learning based solutions of eye disease screening for our industrial partner, Diagnos, Inc.
- Working with Prof. Ismail Ben Ayed and Prof. Jose Dolz.

Coohom, Inc.   *Hangzhou, China*
ALGORITHM EXPERT (TECH LEAD OF COMPUTER VISION TEAM)   *May. 2018 - Mar. 2020*
- Lead the computer vision team, responsible for research and development of computer vision applied in the interior design domain.
- Responsible for the perception system of KuAiDesign, an AI assisted 3D interior design product.

Qihoo 360, Co. Ltd.   *Beijing, China*
MACHINE LEARNING ENGINEER   *Aug. 2017 - Apr. 2018*
- Responsible for recommendation algorithms applied in Huajiao (a live streaming app).

Alibaba Group, Inc.   *Hangzhou, China*
SENIOR ALGORITHM ENGINEER   *Apr. 2016 - Aug. 2017*
- Responsible for optical character recognition (OCR) applied in parsing business license, business card, bank card, etc.
- Responsible for object detection algorithms provided on the machine learning platform on Alibaba Cloud.

Huawei Technologies, Co. Ltd.   *Nanjing, China*
SOFTWARE ENGINEER   *Jul. 2015 - Apr. 2016*
- Responsible for applied machine learning, supporting applications in business partners like China Mobile.

Education

Institute of Automation, Chinese Academy of Sciences   *Beijing, China*
PH.D. IN MACHINE LEARNING   *Sep. 2010 - Jun. 2015*
- Supervisors : Prof. Hanqing Lu and Prof. Jing Liu
- Got the national scholarship awarded to the top 1% students.

Zhejiang University   *Hangzhou, China*
B.S. IN INFORMATION SCIENCE AND COMMUNICATION ENGINEERING   *Sep. 2006 - Jul. 2010*
- Rank: 25/210   GPA: 4.29/5.0
- Excellent graduate award

Selected Publications

- **Bingyuan Liu**, Ismail Ben Ayed, Adrian Galdran, Jose Dolz: **The Devil is in the Margin: Margin-based Label Smoothing for Network Calibration**. CVPR, 2022.

- **Bingyuan Liu**, Christian Desrosiers, Ismail Ben Ayed, Jose Dolz: **Mixed-supervised segmentation: Confidence maximization helps knowledge distillation**. arxiv, 2021. (Major revision in MedIA)

- **Bingyuan Liu**, Jose Dolz, Adrian Galdran, Riadh Kobbi, Ismail Ben Ayed: **The hidden label-marginal biases of segmentation losses**. arxiv, 2021. (under review)

- **Bingyuan Liu**, Jiantao Zhang, Xiaoting Zhang, Wei Zhang, Chuanhui Yu, Yuan Zhou: **Furnishing Your Room by What You See: An End-to-End Furniture Set Retrieval Framework with Rich Annotated Benchmark Dataset**. arXiv, 2019.

- **Bingyuan Liu**, Jing Liu, Jinqiao Wang, Hanqing Lu: **Learning a Representative and Discriminative Part Model with Deep Convolutional Features for Scene Recognition**. ACCV, 2014.