Bingyuan **Liu**

RESEARCHER AND ENGINEER · DEEP 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 and optical character recognition (OCR).

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 from zero, which provided offline and online services for the interior design product, coohom.com.
- 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) algorithms, 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 algorithms, supporting applications in business partner like China Mobile.

Education

Institute of Automation, Chinese Academy of Sciences *Beijing, China*

PH.D. IN DEEP LEARNING AND COMPUTER VISION *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.