

# Chengkun Li

MULTIMODAL · DEEP LEARNING · ROBOTICS

Seebacherplatz, Zurich, Switzerland

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## Education

### Swiss Federal Institute of Technology Lausanne (EPFL)

Lausanne, Switzerland

MASTER OF SCIENCE IN ROBOTICS

2021 – 2024 (Expected)

- Master's thesis supervisors: Prof. [Marco Hutter](#) (ETHZ) and Prof. [Caglar Gulcehre](#) (EPFL)

### Beijing Institute of Technology (BIT)

Beijing, China

BACHELOR DEGREE IN AUTOMATION AND CONTROL (ECE)

2017 – 2021

## Internships

### Student researcher @ Google Research

Zurich, Switzerland

SUPERVISORS: ANDRII MAKSAI, CLAUDIU MUSAT, JESSE BERENT

Aug. 2023. – Feb. 2024

- Worked on **extending Vision-Language Models (VLMs) with ink modality for derendering**
- Researched on tokenization and representation, designed and implemented ink tokenizer for derendering
- Designed multi-task learning, experimented with SeqIO mixtures, deterministic training, multimodal task conditioning, model scaling, and trained 3 variants of models with TPU pods

### Computer Vision Research Intern @ ByteDance AI Lab

Beijing, China

SUPERVISOR: YIDING BO, CHANGHU WANG

Mar. – Aug. 2021

- Conducted research on **Multimodal Learning for video understanding and recommendation**
- Contributed to the development of a multimodal (video, text, interactions) fusion framework. Led the implementation of multiple modules and trained models on large clusters. Achieved state-of-the-art results (top-k accuracy) on an in-house multisense dataset with my MMoE implementation

## Publications

### First-author publications:

- 3 INKSIGHT: OFFLINE-TO-ONLINE HANDWRITING CONVERSION BY LEARNING TO READ AND WRITE 2024  
*Blagoj Mitrevski\*, Arina Rak\*, Julian Schnitzler\*, Chengkun Li\*, Andrii Maksai, Jesse Berent, Claudiu Musat* ArXiv
- 2 MODEL GENERALIZATION: A SHARPNESS AWARE OPTIMIZATION PERSPECTIVE 2022  
*Jozef Colderhoff\*, Chengkun Li\*, Yurui Zhu\** ArXiv
- 1 A NOVEL TOOLBOX FOR BEARING FAULT DETECTION BASED ON PCC AND RESIDUAL BLOCKS. 2020  
*Chengkun Li\*, Yufan Lin\*, Yujing Liu\*, Qi Gao* ISCIIA

### Second-author publications:

- 3 MODULAR QUANTIZATION-AWARE TRAINING FOR 6D OBJECT POSE ESTIMATION 2024  
*Saqib Javed, Chengkun Li, Andrew Lawrence Price, Yinlin Hu, Mathieu Salzmann* ArXiv
- 2 CRYOETGAN: CRYO-ELECTRON TOMOGRAPHY IMAGE SYNTHESIS USING UNPAIRED IMAGE TRANSLATION 2022  
*Xindi Wu, Chengkun Li, Xiangrui Zeng, Haocheng Wei, Hong-Wen Deng, Jing Zhang, Min Xu* Frontiers in Physiology
- 1 ARE WE HUNGRY FOR 3D LIDAR DATA FOR SEMANTIC SEGMENTATION? A SURVEY OF DATASETS AND METHODS 2021  
*Biao Gao\*, Yancheng Pan\*, Chengkun Li, Sibogeng, Huijing Zhao* IEEE Transactions on Intelligent Transportation Systems

### N-author publications:

- 1 SEMANTICPOSS: A POINT CLOUD DATASET WITH LARGE QUANTITY OF DYNAMIC INSTANCES 2020  
*Yancheng Pan, Biao Gao, Jilin Mei, Sibogeng, Chengkun Li, Huijing Zhao* IEEE Intelligent Vehicles Symposium

## Latest Research Projects

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### Continuous Skills Learning for ANYmal Robot

SUPERVISORS: CHENHAO LI, NIKITA RUDIN, SKANDER MOALLA, MARCO HUTTER, CAGLAR GULCEHRE

ETHZ x EPFL, Switzerland

April. 2024 – Now

### Mixed-Precision Quantization for Object Detection and 6D Pose Estimation

SUPERVISORS: SAQIB JAVED, MATHIEU SALZMANN

EPFL, Switzerland

Feb. 2023 – Mar. 2024

### Extending Vision-Language Models with Ink Modality

SUPERVISOR: ANDRII MAKSAI, CLAUDIU MUSAT, JESSE BERENT

Google Research, Zurich

Aug. 2023 – Feb. 2024

## Training & Competitions

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### Summer schools

Jul. 2022 **ETH Robotics Summer School**, ETH Zurich

Switzerland

Jul. – Aug. 2017 **Physiology and Multimedia Study**, UC Berkeley

California, USA

### Competitions

Mar. 2023 **Lauzhack Sustainability Hackathon Winner (3rd place)**, Switzerland

Lausanne, Switzerland

Oct. 2022 **Tandem Race (Robot Detection and Tracking) Winner**, EPFL

Lausanne, Switzerland

## Honors & Community Service

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2024 **Swiss Mobility Scholarship**

Lausanne, Switzerland

2023, 2024 **Reviewers**, International Journal of Computer Vision

2022 – Now **Chinese student online forum**, Founder and maintainer

Switzerland

2021 **Oversea Exchange Scholarship**

Beijing, China

2017 – 2021 **Bachelor Scholarships**

Beijing, China

## Skills

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**Programming Language** C/C++, Python, Scala, Matlab, others with the help of LLMs :)

**Machine Learning** PyTorch, TensorFlow, JAX, Flax

**Robotics & Control** ROS, Simulink, Pybullet, Isaac Gym

**Language** Chinese (native), English (professional), French (A2), German (beginner)

**Management** Git, Docker, Poetry

## References

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**Dr. Mathieu Salzmann** Swiss Federal Institute of Technology Lausanne: mathieu.salzmann@epfl.ch

**Dr. Claudiu Musat** Google: cmusat@google.com

**Dr. Andrii Maksai** Google: amaksai@google.com

**Dr. Min Xu** Carnegie Mellon University: mxu1@cs.cmu.edu

**Dr. Huijing Zhao** Peking University: zhaohj@cis.pku.edu.cn