

Chengan Che

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GitHub | Google Scholar | LinkedIn | Personal Website

EDUCATION

King's College London	London, UK
PhD in Computer Science	Oct 2023 – Present
University of Bristol	Bristol, UK
MSc in Image and Video Communication and Signal Processing (<i>Merit</i>)	Sep 2020 – Sep 2021
Dalian Maritime University	Dalian, China
BSc in Electronic Information Science and Technology (<i>GPA: 3.68, Top 5%</i>)	Sep 2016 – Jul 2020

RESEARCH INTERESTS

Large-Scale Dataset Curation · Foundation Model Building · Self-Supervised Video Representation Learning · Vision-Language Model Pre-training

PUBLICATIONS

(* indicates equal contribution)

- **Chengan Che**, Chao Wang, Tom Vercauteren, Sophia Tsoka, Luis C. Garcia-Peraza-Herrera, “LEMON: A Large Endoscopic MONocular Dataset and Foundation Model for Perception in Surgical Settings”, **CVPR 2026**.
- **Chengan Che**, Chao Wang, Xinyue Chen, Sophia Tsoka, Luis C. Garcia-Peraza-Herrera, “A Stitch in Time: Learning Procedural Workflow via Self-Supervised Plackett-Luce Ranking”, **CVPR 2026**.
- **Chengan Che***, Chao Wang*, Jiayuan Huang, Xinyue Chen, Luis C. Garcia-Peraza-Herrera, “Can LLM-Generated Text Empower Surgical Vision-Language Pre-training?”, **CVPRW 2026** (*Oral Presentation*).
- Chao Wang, **Chengan Che**, Xinyue Chen, Sophia Tsoka, Luis C. Garcia-Peraza-Herrera, “Back to the Feature: Explaining Video Classifiers with Video Counterfactual Explanations”, **CVPR 2026**.

RESEARCH EXPERIENCE

King's College London	London, UK
<i>PhD Researcher in Computer Vision</i>	Oct 2023 – Present

- **Data Curation Pipeline & Scaling Foundation Models (LEMON)** [GitHub] [Paper]
 - Engineered a highly automated data curation pipeline to process diverse, unconstrained raw surgical videos, culminating in LEMON—the largest open-access surgical dataset comprising 4194 long videos and 85M frames.
 - Scaled up surgical foundation models by leveraging this large-scale dataset. Designed LemonFM via an Augmented Self-Distillation framework, achieving SOTA transfer performance across 4 clinical downstream tasks (e.g., +9.5pp Jaccard in phase recognition).
- **Self-Supervised Video Model Pre-training (A Stitch in Time)** [GitHub] [Paper]
 - Addressed the procedural agnosticism in standard SSL video model pre-training by developing PL-Stitch, which formulates temporal ordering as a probabilistic listwise ranking problem to capture global workflow progression.
 - Combined global temporal ranking with a spatio-temporal jigsaw objective for fine-grained temporal object correspondence, yielding SOTA visual representations for complex procedural reasoning on 5 distinct benchmarks.
- **Vision-Language Pre-training & VLM Extension (SurgLIME)** [GitHub]
 - Curated LIME, a large-scale multi-modal surgical dataset, utilizing an automated LLM-captioning pipeline to address the scalability bottleneck of expert textual annotations.

- Developed SurgLIME, a parameter-efficient VLP framework that robustly aligns visual representations with LLM-generated text using a LoRA-adapted dual-encoder and an automated confidence mechanism to dynamically down-weight hallucinations.

INDUSTRY EXPERIENCE

Hangzhou Lizhi Network Technology Company

Hangzhou, China

Computer Vision Engineer

Jan 2022 – Jul 2023

- Optimized object detection and semantic segmentation models for real-world applications.
- Deployed optimized computer vision models to NVIDIA Jetson Xavier edge devices, meeting strict latency constraints for real-time offline inference in production environments.

MENTORING & LEADERSHIP

King's College London

London, UK

Teaching Assistant & Co-Supervisor

2024 – 2025

- Co-supervised thesis projects for 5 MSc and 5 BSc Computer Science students, directing experimental design, dataset curation, deep learning implementations, and academic writing revision.
- Served as a Teaching Assistant for the Machine Learning module (5CCSAMLf), leading group tutorials, evaluating coursework (marking), and providing technical support for undergraduate and postgraduate students.

TECHNICAL SKILLS

- **Programming:** Python, C, MATLAB, JavaScript
- **Machine Learning:** PyTorch, Foundation Model Pretraining, Self-Supervised Learning (SSL), Vision-Language Models (VLMs)
- **Tools & Systems:** Git, Docker, Linux, Bash, Distributed Training (Multi-GPU/Node), Edge Deployment