

Siyi Du

PHD STUDENT · IMPERIAL COLLEGE LONDON

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“The height of life lies in ambition.”

Summary

Current PhD student at BioMedIA lab, Imperial College London. 7+ years experience specializing in the deep learning, computer vision, and medical imaging. Super nerd who loves Linux, Python and PyTorch and enjoys to code novel algorithms. Interested in devising a better problem-solving method for challenging tasks, and learning new technologies and tools if the need arises.

Internship

Lenovo

Beijing, China

SUMMER RESEARCH INTERN

Jul. 2023 - Sep. 2023

- Designed a novel visual-aware large language model for sequential recommendation.
- Devised a multi-task pre-training strategy to learn visual features that include user preference and are understandable to the large language model (LLM) and a instruction tuning method for parameter-efficient fine-tuning.
- Deployed the algorithm on Llama (a kind of LLMs) and trained it using the Amazon Product dataset.
- Wrote and published a patent in China

Cognitive Robotics and AI Lab, Kent State university

Kent, US

SUMMER RESEARCH INTERN

March. 2020 - Oct. 2020

- Designed a novel encoder based on self-supervised learning to capture the high dimensional representation of objects' features related to similar physics laws in both old and new environments.
- Devised a policy decision module to generate action sequences based on representations extracted by the encoder
- Implemented the whole model using Python and PyTorch.

Education

IC(Imperial College London)

London, UK

PH.D. IN ELECTRICAL AND ELECTRONIC ENGINEERING

Oct. 2023 - Current

- Got a Full PhD Scholarship which include tuition fees (3 years) and stipend (3.5 years).

UBC(University of British Columbia)

Vancouver, BC, Canada

M.A.SC. IN ELECTRICAL AND COMPUTER ENGINEERING

Sep. 2021 - Sep. 2023

- Thesis: Deep Learning for Dermatology : Contributions in Model Fairness, Multi-domain Adaptation, and Light-weight Efficiency.
- GPA: 94%.
- Got a Research Assistant Scholarship for two years (21,000 CAD/ year).

Beihang University

Beijing, China

B.E. IN AUTOMATION SCIENCE (PATTEN RECOGNITION DIRECTION)

Sep. 2017 - July. 2021

- GPA: 3.83/4.0 (Ranking: Top 5)

Publications

CONFERENCE

- Du, S., Bayasi, N., Hamarneh, G., and Garbi, R. (2023). AViT: Adapting Vision Transformers for small skin lesion segmentation datasets. In International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2023) ISIC Workshop.
- Bayasi, N., Du, S., Hamarneh, G., and Garbi, R. (2023). Continual-GEN: Continual Group Ensembling for Domain-agnostic Skin Lesion Classification. In International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2023) ISIC Workshop.
- Du, S., Bayasi, N., Hamarneh, G., and Garbi, R. (2023). MDViT: Multi-domain vision transformer for small medical image segmentation datasets. In International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2023).
- Du, S., Hers, B., Bayasi, N., Hamarneh, G., and Garbi, R. (2022). FairDisCo: Fairer AI in dermatology via disentanglement contrastive learning. In European Conference on Computer Vision (ECCV 2022) ISIC Workshop.
- Jiang, X., Du, S., Qin, Z., Sun, Y., and Yu, J. (2020). KBGN: Knowledge-bridge graph network for adaptive vision-text reasoning in visual dialogue. In Proceedings of the 28th ACM international conference on multimedia (ACMMM 2020).

Honors & Awards

2023	Best Paper Award , 8th ISIC Skin Image Analysis Workshop @ MICCAI 2023	<i>Canada</i>
2023	PhD Full Scholarship , Imperial College London	<i>UK</i>
2023	Graduate Support Initiative (GSI) Award , UBC	<i>Canada</i>
2022	Best Paper Award , 7th ISIC Skin Image Analysis Workshop @ ECCV 2022	<i>Israel</i>
2021-23	Research Assistant Scholarship , UBC	<i>Canada</i>
2021-23	International Tuition Award , UBC	<i>Canada</i>
2021	Meritorious Winner , Mathematical Contest in Modeling in USA	<i>USA</i>
2018	1st Prize , National Mathematics Competition for College Students	<i>China</i>
2018-20	National Encouragement Scholarship , Ministry of Education of the People's Republic of China	<i>China</i>
2018-19	Outstanding Student Award , Beihang University	<i>China</i>

Other Activities

2023	Program Committee & Reviewer , 8th ISIC Skin Image Analysis Workshop @ MICCAI 2023	<i>Canada</i>
2018-19	Teaching Assistant , Medical Imaging, UBC	<i>Canada</i>
2022-23	Teaching Assistant , Engineering Graphics, Beihang University	<i>China</i>

Computer Skills

OS	MAC, Window, Linux
Deep Learning	PyTorch, TensorFlow
Software Programming	Python, MATLAB, C, Assembly Language
Hardware Programming	SolidWorks, AutoCAD, Verilog HDL