Ying Liu

MSc. in Computer Science
Position: AI Engineer
English (IELTS 6.5), Native Chinese

✉ yili@di.ku.dk
📞 +45-52671751
📖 Ying's Learning Notes
✈ Copenhagen, Denmark

EDUCATION

- **University of Copenhagen, Denmark**   *Till Now - Aug. 2022*
  MSc. in Computer Science, Department of Computer Science   Current GPA: 9.16/12

  – Focus: Image Analysis, Medical Imaging, Machine Learning & Deep Learning
  – Key Learning: Courses in (**IACV**) Track, and Experiences in Medical Image Processing and Analysis

    * **Exploration of Self-Supervised Learning Methods for Longitudinal Image Analysis (10/12)**
    * **Advanced Deep Learning (12/12)**, **Advanced Algorithms and Data Structures (12/12)**
    * **Advanced Topics in Image Analysis (10/12)**, **Project in Self-Supervision Learning (10/12)**
    * **Medical Image Analysis (10/12)**, **Signal and Image Processing (12/12)**

- **University of Oulu, Finland**   *July 2022 - Aug. 2018*
  (JOINT) BSc. in Information Processing Science (ITEE)   GPA: 4.45/5

  – Key Learning: **Develop Software More Scientifically** and **Collaborate in Software Team Efficiently**

- **Nanjing Institute of Technology, China**   *July 2022 - Aug. 2018*
  (JOINT) BEng. in Software Engineering (SIE)   Percentage: 89.35% (Top 2)

  – Key Learning: **Self-Motivated Learning**, and Develop a **Solution-Oriented Mindset** from Programming.

WORK EXPERIENCE

- **University of Copenhagen**   *Till Now - Apr. 2024*
  *Teacher's Assistant in **Advanced Deep Learning***   Copenhagen
  – **Hold exercise sessions** and **grade** assignments to help students **comprehend knowledge of deep learning**.

- **Nanjing Institute of Technology**   *June 2022 - Jan. 2019*
  *Teacher's Assistant in **Advanced Mathematics I-II** and **Programming I-IV***   Nanjing
  – Assist professors in **crafting slide** presentations, **address student inquiries** and **grade** assignments.

PROJECTS AND RESEARCH

- **Exploration of Self-supervised Learning Methods**   *June 2024 - Feb. 2024*
  Master's Thesis: whether recent self-supervision methods benefit longitudinal images

  – This research is to explore whether the relatively modern **self-supervision** methods (e.g., **BYOL**)
    can **capture spatial or temporal changes** for **longitudinal medical** images (**4D CT Lung - TCIA**),
    expect to see **pathology changes** and think of the corresponding clinically relevant usage.

- **Modernization of CNNs Towards Transformers**   *Nov. 2023 - Sept. 2023*
  Standard ResNet-50 → Standard Swin-T in Architecture on Classification

  – This research inspired from *ConvNeXt* and to verify whether the claim *ConvNeXt*
    outperforms Transformers holds true even on a small-scale dataset, CIFAR-10.
    "Modernize" the ResNet built from scratch step by step, train and record performances
    along the way, it turned out the claim holds and **convolution is still meaningful**.

- **Review of Self-supervised Learning Methods**   *Nov. 2023 - Aug. 2023*
  Introduction to Self-supervised Learning and Interpretations

  – This study aims to bring me into the door of self-supervised learning, the main categories
    have been learned and some state-of-the-art methods have been analyzed for **longitudinal** images.

- **Dynamic Promoting SAM with YOLOv8**   *Jan. 2023 - Dec. 2022*
  Object Detection (YOLOv8) → Segmentation (SAM)

  – Train a **yolov8** on the **X-ray** dataset to learn the representations of the **lungs** to
    generate bounding boxes for dynamically prompting SAM to perform segmentation.

ACHIEVEMENTS

- **Honours Graduate** University of Oulu   *June 2022*
- **Outstanding Graduate, First-class/Special Scholarship** Nanjing Institute of Technology   *June 2022*