Tsung-Han Wu

✉ tsunghan@cmlab.csie.ntu.edu.tw 🏠 tsunghan-wu.github.io ⭘ tsunghan-wu 𝕊 Google Scholar

📚 Education

National Taiwan University   **Taipei, Taiwan**
M.S. in Computer Science   2020–Present
Research Topic: Computer Vision, Machine Learning
Lab: Communications and Multimedia Laboratory (CMLab), Advisor: Prof. Winston H. Hsu

National Taiwan University   **Taipei, Taiwan**
B.S. in Computer Science   2016–2020
GPA: overall: 4.18, major: 4.24, graduate ranking: 6/117 (5%)
Honors: Dean's List Award * 3 (F'16, S'17, F'19)
Activities: Academic Department in Student Association in NTU CS (Members in 2017, Leader in 2018)

💡 Research Experiences

Graduate Researcher, CMLab NTU, Advisor: Prof. Winston H. Hsu   Sep. 2020–Present
  – Researched on **3D Deep Active Learning** to reduce 20x labeling effort on point cloud semantic segmentation.
    [ICCV'21] [Code] [Video]
      – Won 2021 Foxconn Technology Award. [Link]
  – Researched on **Cross-Domain Active Learning** to achieve domain adaptation with minimum acquired labels on
    semantic segmentation. [arXiv Link]

Undergraduate Researcher, CMLab NTU, Advisor: Prof. Winston H. Hsu   Sep. 2018–Nov. 2020
  – Researched on **Depth Completion** to improve depth map structure and quality. [ICCVW'19] [Code]
  – Researched on **LiDAR Signal** to enhance the performance of **Stereo Matching** and **Depth Estimation**. [CVPR'21]

📖 Publications

  – **Tsung-Han Wu**, Yueh-Cheng Liu, Yu-Kai Huang, Hsin-Ying Lee, Hung-Ting Su, Ping-Chia Huang, Winston H.
    Hsu. "ReDAL: Region-based and Diversity-aware Active Learning for Point Cloud Semantic Segmentation." In
    IEEE International Conference on Computer Vision, Oct 2021. [Paper] [Code] [Video]
  – Yu-Kai Huang, Yueh-Cheng Liu, **Tsung-Han Wu**, Hung-Ting Su, Yu-Cheng Chang, Tsung-Lin Tsou, Yu-An
    Wang, and Winston H. Hsu."S3: Learnable sparse signal superdensity for guided depth estimation." In IEEE
    Computer Vision and Pattern Recognition, Jun 2021. [Paper]
  – Yu-Kai Huang*, **Tsung-Han Wu***, Yueh-Cheng Liu, and Winston H. Hsu. "Indoor depth completion with bound-
    ary consistency and self-attention." In IEEE International Conference on Computer Vision (ICCV) Workshops, Oct
    2019. [Paper] [Code]
  – **Tsung-Han Wu**, Yi-Syuan Liou, Shao-Ji Yuan, Hsin-Ying Lee, Tung-I Chen, Kuan-Chih Huang, Winston H.
    Hsu "D2ADA: Dynamic Density-aware Active Domain Adaptation for Semantic Segmentation" arXiv:2202.06484
    (2022). [Paper]
  – Kuan-Chih Huang, **Tsung-Han Wu**, Hung-Ting Su, Winston H. Hsu "MonoDTR: Monocular 3D Object Detection
    with Depth-Aware Transformer." arXiv preprint arXiv:2203.10981 (2022). [Paper]

🔧 Work Experiences

NTUCSIE Network and System Administration Team   **Taipei, Taiwan**
System Administrator [Certificate Link]   Feb. 2018–Jun. 2020
  – Supervisor: Prof. Hsin-Mu Tsai
  – An experienced section chief of mail service, maintaining the mail services used by thousand of people and help
    users troubleshoot problems. Collaborate with the team to develop automated deployment toolkit. (2018-2019)
  – An administrative coordinator of the system administration team. United the team to restructure system archi-
    tecture and successfully improve system backup and monitoring. (2019-2020)

ASUS AICS Internship Program   **Taipei, Taiwan**
Data Scientist Intern   Jul. 2019–Aug. 2019
  – Develop a toolkit that boost OCR performance by denoising and rectification.
  – Train a deep neural network that outperforms their original object detection model.

💼 Teaching Experiences

Network Administration and System Administration Laboratory   **NTUCSIE**
Teaching Assistant   2019, 2020 Spring
  – Develop and set two programming homework. Graded the student works. Taught two one-hour lab, including shell script, partition, file-system and Linux kernel. (2019 Spring)
    – Won the "Best Teaching Assistant Awards" in the EECS department. [Link]
  – Assist in course syllabus planning, and lead the teaching assistant team to complete all homework assignment and in-class lab. (2020 Spring)

Machine Learning   **NTUEE**
Teaching Assistant   2019 Fall
  – Develop and set two programming homework. Graded the student works.

Algorithm Design and Analysis   **NTUCSIE**
Teaching Assistant   2018 Fall
  – Develop and set four hand-written homework. Graded the student works.

🏆 Awards

Dean's List Award, at NTU CSIE (For top 5% students); 3x Recipient   Fall'16, Spring'17, Fall'19
Best Teaching Assistant Awards, at NTU EECS   Spring'19
Foxconn Technology Award (For top 19 applied students in Taiwan, 250K NTD scholarship)   Dec. 2021

🤚 Skills

Languages: Experienced in C, Python and capable of C++. Fluent in Tensorflow, PyTorch and Scikit-Learn.
System administration: Git, Linux, Ansible, QEMU-KVM and Docker.

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