En-Rong Tsai

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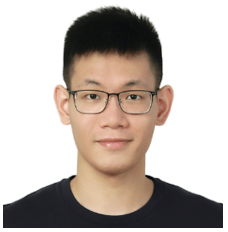

Introduction

I am currently a graduate student in Industrial Engineering at National Tsing Hua University. The primary research of our lab focused on optimization algorithms, including soft computing and deep neural network. I am currently working on Deep Face recognition problems. Especially, solving the pose-variant issues limited by extreme profile views. My research interests include computer vision and machine learning.

Education

- **National Tsing Hua University** — Hsinchu, Taiwan
  Master of Science in Industrial Engineering — *Aug. 2018 - Present*
- **National Chung Cheng University** — Chiayi, Taiwan
  Bachelor of Arts in Economics — *Sep. 2012 - Jun. 2016*

Research Experience

The 21st Decision Analysis Symposium:

- *Dec. 2018*
  Our team presents a consumer behavior analysis report based on the Analytic Hierarchy Process (AHP) that provides budget airlines with competitive strategies and service adjustment suggestions on specific routes.
  Minitab | Analytic Hierarchy Process | Expert Choice | SurveyCake

Knowledge Engineering Lab:

- *Aug. 2018 - Feb. 2019*
  Utilize the text mining approach, including TFIDF and K-means clustering, to manipulate the Knowledge Acquisition process and analyze the research trend of virtual reality exposure therapy (VRET) in phobia treatment from 2008 to 2018.
  Python | TF-IDF | K-means

- *Aug. 2018 - Feb. 2019*
  Responsible for establishing a virtual reality environment for VRET therapy research on driving phobia. The research is in collaboration with Chang Gung Hospital and uCare Medical Electronics.
  C# | Unity | HTC VIVE pro

Integration & collaboration Lab:

- *Dec. 2019*
  Invited by Advisor, I was honored to give a lecture in IEEM1080105, talk about the recent progress of deep learning based face recognition and the leap forward of our current research.

- *May 2019 - Present*
  My MS thesis entitled **Improved Training Loss Function For Pose-Robust Deep Face Recognition**. Our research base on Convolutional Neural Networks (CNN) proposes an Improved Training Loss Function for solving the pose-variant issues that confront by extreme profile views. The proposed loss function can dynamically manipulate the learning weight correspond to the yaw degrees of the profile images with the supervision of state-of-the-art learning loss to ensure both discriminability and the large profile learning. Furthermore, due to the attribute of alleviating imbalanced training data issues, we expect the contribution of our research can extend to address other fine-grained object classification problems.
  Python | PyTorch | OpenCV

Other Experience

Teaching & Leadership:

- *Sep. 2009 - Present*
  10+ years of instructor experience with training certificate for True Jesus Church Religious Education. (Teaching experience from elementary school children to high school teenagers.)
- *Sep. 2012 - Jun. 2016*
  Participated in the Living Water Fellowship* as the President and Event General Coordinator for 2+ years.

  **Living Water Fellowship is a Christian joint club of Six Universities in the Chiayi region concerning non-profit social services and sharing religious faith.*

Awards and Achievements

- *Sep. 2012 - Aug. 2013*
  Associated in the department badminton team and won the champion of the 2012 economics cup.
- *Feb. 2015 - Jun. 2015*
  Participate in Industrial economic startup competition, our group won 2nd place in the overall ranking, and 1st place in campus non-profit startup categories.

Skills

- **Programming Languages**: Python, C, C#, VimL, LaTex, HTML 5, CSS, Javascript
- **Frameworks & Develops Tools**: PyTorch, OpenCV, Vim, Tmux, Github, Ubuntu Server, Docker, GCP Compute Engine
- **Languages**: TOEIC: 750/990 (2012)