Edwin Arkel Rios

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https://arkel23.github.io/

Education

National Chiao Tung University   Hsinchu, Taiwan
Master of Science in Electrical Engineering and Computer Science   *July 2019 - Present*
- Relevant coursework: Image Processing, Deep Learning, Machine Learning, Applied Computer Vision, Intelligent Fog Computing Systems
- Cumulative GPA: 4.30/4.30

National Cheng Kung University   Tainan, Taiwan
Bachelor of Science in Energy Engineering   *Sept. 2015 - June 2019*
- Relevant coursework: Signal Processing, Automatic Control, Optimization Design, Numerical Analysis, Introduction to Artificial Intelligence, [Machine Learning, Introduction to Data Science] (Coursera)
- Cumulative GPA: 3.76/4.30

National Taiwan University   Taipei, Taiwan
Chinese Language Division Language Center   *Aug. 2014 - Aug. 2015*
San Agustin School   Panama, Panama
High School Diploma in Science and Arts   *Mar. 2011 - Dec. 2013*

Skills

Languages: Spanish (native), English (fluent), Mandarin Chinese (proficient)

Software and programming: Python (NumPy, matplotlib, pandas, sci-kit learn, TensorFlow, Keras, PyTorch), Linux, Git, Bash, MATLAB, C++, OpenCV, SolidWorks, LaTeX

Achievements

2020 Academic Achievement Award during R.O.C. Academic Semester 108-1 and 108-2   *NCTU, Hsinchu*

2018 Outstanding Student during R.O.C. Academic Year 105 and 106   *NCKU, Tainan*

2013 Highest cumulative GPA of Class 2013: 4.53/5.00   *San Agustin School, Panama*

2013 Silver and gold medal in National Physics Olympics   *Republic of Panama*

Experience

NCTU's Parallel Computing Systems Lab   *July 2019 - Present*
- Researched camera video for bio-signal detection (RPPG) algorithms for facilitation of remote AI-assisted health care. Implement algorithms, perform result analysis and presentation, organize group efforts.
- Conduct literature survey, assessment and exposition, to introduce our team to the state-of-the-art in the field while judging advances made by different research groups across the globe, and also understand the current gaps in the literature to propose promising research directions.

Applied Computer Vision   *Sept. 2020 - Jan. 2021*
- Implemented state-of-the-art for image classification, Vision Transformer (ViT), for long-tailed anime character dataset using PyTorch.
- Prepared a challenging dataset with almost 500K images and more than 3K character classes, and conducted extensive experiments on hyperparameter (image and mini-batch size) influence of ViT.

Publications

- **Parametric Study of Performance of Remote Photoplethysmography System**. Accepted to *ISCAS 2021*.
- **DAF:RE A Challenging, Crowd-Sourced, Large-Scale, Long-Tailed Dataset for Anime Character Recognition**. Submitted to *ICIP 2021*. Preprint: https://arxiv.org/abs/2101.08674
- **Fine-Tuning of Vision Transformers for Domain Adaptation to Drawn Character Face Recognition**. Submitted to *ICIP 2021*.