Edwin Arkel Rios
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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.

Intelligent Fog Computing Systems and Design *Sept. 2020 - Jan. 2021*

- Implemented RPPG algorithms on edge and fog devices for better allocation of computation resources.

Digital Image Processing *Sept. 2019 - Jan. 2020*

- Based on an image deblurring Generative Adversarial Network (GAN) implemented a platform to deblur videos, and designed a GAN model to increase a video's FPS.

Deep Learning *Sept. 2019 - Jan. 2020*

- Worked as a team to implement a neural network model for autonomous self-driving car using ROS and TF.