LUIS ANGEL FIGUEROA

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EDUCATION

Carnegie Mellon University *May 2021*
Master of Science, Biomedical Engineering Pittsburgh, PA

Occidental College *May 2019*
Bachelor of Arts, Mathematics and Computer Science, Double Major Los Angeles, CA

RESEARCH INTERESTS

My main research interests are in computer vision, machine learning, and deep learning. More specifically, I am interested in image understanding, image and video segmentation, contextual image classification, image captioning, graphics, and generative models. I have broader interests in applied mathematics, cognitive science, biology, health, and medicine.

RESEARCH EXPERIENCE

Research Engineer at Adobe Research San Jose, CA
Research Engineering and Design Lab *June 2021 - Present*

Computer Vision Research Intern at Adobe Research San Jose, CA
Advised by Scott Cohen, Zhihong Ding, and Zhe Lin *May 2020 - Mar. 2021*
- Conducting research on developing a model for detecting and segmenting object-shadow instances from images.

Computer Vision Research Intern at Adobe Research San Jose, CA
Advised by Scott Cohen, Zhihong Ding, and Zhe Lin *Jun. 2019 - Mar. 2020*
- Designed a model to automatically detect and classify wanted or unwanted objects in images.

Summer Research Fellow at Occidental College Los Angeles, CA
Advised by Celia Chen *May 2018 - Aug. 2018*
- Designed a domain-specific Part-of-Speech (POS) tagger to tag non-natural language to improve automatic summarization of bug reports .

Research Assistant at Occidental College Los Angeles, CA
Advised by Kathryn Leonard *Jan. 2018 - May 2018*
- Conducted research on developing inexpensive machine learning and open-sourced algorithms to find regions of interest in mammograms to facilitate early diagnosis of breast cancer.

Research Intern at NASA Jet Propulsion Laboratory Pasadena, CA
Advised by Thomas Lu *Jun. 2017 - Feb. 2018*
- Conducted research on improving segmentation results of objects in multi-spectral infrared (IR) images and videos.

PUBLICATIONS

· **Luis Figueroa**, Scott Cohen, Zhihong Ding, Zhe Lin. *"OASIS: Object-Aware Shadow Instance Segmentation,"* Submitted.

· Thomas Lu, Alexander Huyen, Kevin Payumo, **Luis Figueroa**, Edward Chow, Gilbert Torres, *"Deep neural network for precision multi-band infrared image segmentation,"* Proc. SPIE 10649, Pattern Recognition and Tracking XXIX, 1064904 (27 April 2018); https://doi.org/10.1117/12.2305134

ACADEMIC HONORS AND ACHIEVEMENTS

- **GSMI Scholar**, Cientifico Latino, June 2020
- **GEM Full Fellow**, The National GEM Consortium, May 2019
- **SACNAS Undergraduate Research Poster Presentation Award**, Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), October 2018
- **COSMOS Scholar**, Occidental College, August 2016

SKILLS

Languages

Experienced: Python, Java, C++, Shell scripting, *Familiar*: C, MATLAB

Libraries

PyTorch, OpenCV, Detectron2, Pillow, scikit-learn, Simple ITK, NLTK, CoreNLP

TEACHING EXPERIENCE

Courses at Occidental College

Lead Teaching Assistant, Data Structures (COMP229), Spring 2019

Lab Teaching Assistant, General Physics (PHYS115), Spring 2019

Teaching Assistant, Data Structures (COMP229), Fall 2018

Teaching Assistant, Calculus I (MATH110), Fall 2018

Teaching Assistant, Mathematical Foundations of Computer Science (COMP149), Fall 2017

Other Teaching Experience

Organizer and Instructor, Math and Coding Workshop, San Luis, AZ, Winter 2016

Organizer and Instructor, Sigma-Lambda Summer Math, San Luis, AZ, Summer 2016

PRESENTATIONS AND TALKS

- ***Trajectory Forecasting Using Segmentation and Attention***
  Course Project for Visual Learning and Recognition, Carnegie Mellon University, Pittsburgh, PA, May 2021

- ***Graffiti Detection***
  Final Project for Pattern Recognition Theory, Carnegie Mellon University, Pittsburgh, PA, December 2020

- ***Anomaly Detection in Brain MRI Scans***
  Final Project for (Bio)Medical Image Analysis, Carnegie Mellon University, Pittsburgh, PA, May 2020

- ***Part-of-Speech Tagger for Non-Natural Language in Bug Reports***
  Senior Comprehensive Project, Occidental College, Los Angeles, CA, December 2018

- ***Improving Automatic Bug Summarization For Maintainable Software Through Part-Of-Speech Tagging of Domain-Specific Words***
  Poster Presentation, Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), San Antonio, TX, October 2018, *Acknowledgements: Emily Tran, Dr. Celia Chen*

- ***Image Processing Methods for Detection of Regions of Interest in Mammographic Images***
  Poster Presentation, Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), San Antonio, TX, October 2018, *Acknowledgements: Emily Tran, Dr. Kathryn Leonard*