Maria Camila Escobar

Webpage | Email | Linkedin | Github | Google Scholar

EDUCATION

PhD., Engineering, Universidad de los Andes   *2021-*

MSc., Biomedical Engineering, Universidad de los Andes   *2019-2020*
Thesis: Generative Adversarial Networks for Robust Medical Image Analysis.

BSc., Biomedical Engineering, Universidad de los Andes   *2015-2018*
Minor: German Language and culture.

AWARDS

· 2nd place in PNR Temporal Localization and 3rd place in Object State Change Classification for Ego4D CVPR Challenges @ CVPR (2022)
· Best GPA among 45 graduating BME Students (2019).
· Member of the Colombian Talent Program (Programa Semillero de Talentos) created by Colfuturo to provide guidance and scholarships to top students in Colombia (2019).
· First place in the graduate national exams for BME. Seventh place nationwide (2018).
· Coulter College Design Scholar (2018).

PUBLICATIONS

· Video Swin Transformers for Egocentric Video Understanding @ Ego4D Challenges 2022. **M. Escobar***, L. Daza*, C. González, J. Pont-tuset, P. Arbeláez. Arxiv, 2022.
· Smart pooling: AI-powered COVID-19 informative group testing. **M. Escobar**, G. Jeanneret, L. Bravo-Sánchez, et al. Scientific Reports, 2022.
· Generalized Real-World Super-Resolution through Adversarial Robustness. A. Castillo*, **M. Escobar***, A. Romero, R. Timofte, L. Van Gool, P. Arbeláez. To appear at the ICCV Advances in Image Manipulation (AIM) Workshop, 2021.
· SIMBA: Specific Identity Markers for Bone Age Assessment. C. González*, **M. Escobar***, L. Daza, F. Torres, G. Triana, and P. Arbeláez. International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2020.
· LUCAS: LUng CAncer Screening with Multimodal Biomarkers. L. Daza, A. Castillo, **M. Escobar**, and P. Arbeláez. Multimodal Learning for Clinical Decision Support workshop at the International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2020.
· UltraGAN: Ultrasound Enhancement Through Adversarial Generation. **M. Escobar***, A. Castillo*, A. Romero and P. Arbeláez. Simulation and Synthesis workshop at the International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2020.
· Hand Pose Estimation for Pediatric Bone Age Assessment. **M. Escobar***, C. González *, F. Torres, L. Daza, G. Triana and P. Arbeláez. International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2019.
· An empirical study on Global Bone Age Assessment. F. Torres , C. González, **M. Escobar**, L. Daza, G. Triana and P. Arbeláez. International Symposium on Medical Information Processing and Analysis, 2019.

* denotes equal contribution.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant - Universidad de los Andes   *Aug, 2018 - Present*
· Member of the Biomedical Computer Vision (BCV) group at Uniandes led by Prof. Pablo Arbeláez.
· Applying computer science skills in biomedical imaging problems.
· Working on multidisciplinary teams to conduct research projects.
· Writing paper submissions for international conferences.
· Creating research projects and writing grant proposals.

Graduate Teaching Assistant - Analysis and Processing of Biomedical Images   *Jan, 2019 - Aug, 2019*
- Laboratory instructor - 50 students in charge.
- Designing and grading laboratory guides.
- Assisting and evaluating students in final course projects.

Undergraduate Teaching Assistan - Universidad de los Andes   *Aug, 2016 - May, 2018*
- Courses: Quantitative physiology I and II, Probability and statistics, Algorithmic and Object-Oriented Programming.
- Designing interactive material for lectures.
- Designing and grading midterms.
- Modifying laboratory guides.
- Assisting students during midterms and lab sessions.
- Grading lab guides and homework.

RESEARCH

Ego4D   *Jan, 2022*
- Dataset and methods for egocentric vision understanding.
- Role: Team co-leader at Uniandes.

Smart Pooling   *March, 2020*
- AI tool to enhance COVID-19 PCR molecular testing.
- Role: Team leader.

DELFOS   *Jan, 2020*
- Method for early diagnosis of congenital heart defects in Colombia.
- Role: Team Leader.

Lung Cancer Diagnosis   *Nov, 2019*
- Deep Learning model for early detection of Lung Cancer based on CAT scans and medical reports.
- Role: Research assisstant.

Image and video generation   *Jan, 2019*
- Generative Adversarial Networks for diverse applications.
- Role: Team co-leader.

Bone Age Assessment   *Aug, 2018*
- Deep Learning model to predict Bone Age based on hand radiographs.
- Role: Team co-leader.

SKILLS

Programming: Python, PyTorch, Matlab, y LaTeX

Languages: Spanish (Native), English (C2), German (B1).

ADDITIONAL INFORMATION

Volunteer - Fundación Con Las Manos   *2019 - Present*

Staff member at "Con Las Manos", a project created in 2013 at Uniandes with the aim of giving back to a vulnerable community with the most powerful tool we all have: education. My role as a volunteer is to teach 5th graders basic math through a problem based learning framework and socio-emotional abilities through various interactive projects. I also work on the Operations area, we are in charge of the logistics behind everything that goes on in the organization.