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

·
- 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

·
- 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.
- Smart Pooling: AI-powered COVID-19 testing. **M. Escobar**, G. Jeanneret, L. Bravo-Sánchez, et al. medRxiv, 2020.
- 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

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

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

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

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

Bone Age Assessment   *Aug, 2018*
· Deep Learning model to predict Bone Age based on hand radiographs.
· Rol: 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*
Volunteer 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.