Catalina Gómez Caballero

Colombian

RESEARCH INTERESTS

Artificial Intelligence, Computer Vision, Machine Learning, Medical Imaging, Neuroscience

EDUCATIONAL EXPERIENCE

Universidad de los Andes Bogotá, Colombia

M.Sc. in Biomedical Engineering, *cum laude* March 2019

- Thesis: Automatic Seizure Detection based on imaged-EEG signals through statistical learning. Directed by Mario Valderrama and Pablo Arbeláez

Universidad de los Andes Bogotá, Colombia

B.E. in Biomedical Engineering, *summa cum laude* October 2017

- Thesis: Development of a device for electric stimulation to reduce the degree of atrophy in patients with immobilized limbs. Directed by Juan Carlos Cruz and Mario Valderrama

SCHOLARSHIPS/AWARDS

- Fulbright Colciencias Scholarship, August 2019
- Project funding by the Vice-Chancellor of Research at Universidad de los Andes, January 2018-present
- Award for Semester of Excellence at the Universidad de los Andes for the best GPA of the Department of Biomedical Engineering in 2014

RESEARCH AND TEACHING EXPERIENCE

Research Assistant Bogotá, Colombia

Universidad de los Andes 08/2017-present

Automatic Seizure Detection based on imaged-EEG signals

- Developed and evaluated an algorithm to automatically detect epileptic seizures in brain signals from different databases using Deep Learning

Transient Astronomical Object Detection and Classification

- Retrieved a database from the catalogs of the Catalina Real-Time Transient Survey. Develop a deep learning algorithm that models spatio-temporal dependencies to classify transient events using image sequences

Biomedical Segmentation in 3D-images

- Conduct experiments of 3D-models to segment brain structures and livers in volumetric medical images

Undergraduate Teacher Assistant Bogotá, Colombia

Universidad de los Andes 01/2015-05/2017

- Grader of undergraduate courses: Probability and Statistics I, Circuits and Instrumentation, Signals Processing and Instrumentation
- Supported freshmen in Biomedical Engineering with first level courses (calculus, physics, chemistry) and advised them in academical and personal decisions

Summer Intern Garching, Germany

Max Planck Institute for Astrophysics 07-08/2018

- Contributed to the characterization of data from the IllustrisTNG project to analyze Local Group analogues

SEMINARS AND COURSES

International Symposium on Medical Information Processing and Analysis (SIPAIM) - Oral presentation: Learning to Segment Brain Tumors

Instituto Tecnológico Metropolitano de Medellín, Medellín, Colombia 2019

ICTALS 2019 – Poster presentation: Automatic Seizure Detection in Scalp and Intracranial Recordings through Convolutional Neural Networks

International Conference for Technology and Analysis of Seizures, Exeter, England, 2019

Neuroscience 2018 - Poster presentation: Seizure Detection based on "imaged-EEG" signals through statistical learning

Society for Neuroscience, San Diego, United States, 2018

International Symposium on Medical Information Processing and Analysis (SIPAIM) - Oral presentation: Recognition of skin melanoma through dermoscopic image analysis

Universidad Nacional de Colombia, San Andrés, Colombia 2017

PUBLICATIONS

- Catalina Gómez and Diana Herrera. Recognition of skin melanoma through dermoscopic image analysis, Conference Proceedings for the 13th International Conference on Medical Information Processing and Analysis. SPIE Digital Library, 2017
  URL: https://doi.org/10.1117/12.2285957
- Laura Daza, Catalina Gómez and Pablo Arbelaez. Learning to segment brain tumors, Conference Proceedings for the 15th International Conference on Medical Information Processing and Analysis. SPIE Digital Library, 2019
  URL: https://doi.org/10.1117/12.2542571

SKILLS

Languages	Spanish (native)
	English (fluent)
	French (beginner)
Programming languages	Python, MATLAB, Arduino, Minitab, MeshLab, R
Community service	Fundación con las manos, Bogotá, 02/2018-present