

NICOLÁS AYOBÍ MENDOZA

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scholar.google.com/citations?user=YpUSLocAAAAJ&hl=es

SUMMARY

I am a resourceful and quick-learning first-year biomedical engineering master's student. I just finished my Bachelor's studies in biomedical engineering, with a double minor in Computational Mathematics and Bioinformatics. Additionally, I work as a graduate research assistant at the CinfonIA research center of the University of Los Andes on several projects focused on computer vision. My goal is to achieve a Ph.D. in the future to fully develop my research on machine vision applications in medicine. I aim to someday work in an extensive research center of applied artificial intelligence in the far future.

EDUCATION

Master's degree: Biomedical Engineering

Universidad de Los Andes

Jan 2022 – Present Bogotá, Colombia

- Research master's focused on computer vision and AI.
- GPA: 4.75/5.0

Bachelor's degree: Biomedical Engineering

Universidad de Los Andes

Aug 2017 – Dec 2021 Bogotá, Colombia

- Double Minor: Computational Mathematics & Bioinformatics
- GPA: 4.54/5.0

Undergraduate Exchange Program: Engineering

University of New South Wales

Aug 2019 – Dec 2019 Sydney, Australia

EXPERIENCE

Research Assistant: Computer Vision and AI

CinfonIA, Universidad de Los Andes

Aug 2020 – Present Bogotá, Colombia

CinfonIA is the leading research center in artificial intelligence in Latin America.

- Work on multiple computer vision projects on natural and medical images.
- Implement state-of-the-art deep learning techniques and present results weekly.
- Process and analyze data gathered from different sources.

Graduate Teaching Assistant: Computer Vision Course

Universidad de Los Andes

Jan 2022 - Sep 2022 Bogotá, Colombia

- Proposed and evaluated laboratory assignments about different computer vision models and tasks.
- Formulated and graded theoretical and practical exams.
- Assisted students with their research projects for the course.
- Created contents for the new Coursera's Master's degree in AI.

Undergraduate Teaching Assistant: Multiple Courses

Universidad de Los Andes

Aug 2020 - Dec 2021 Bogotá, Colombia

- Helped the teachers with course planning.
- Created practical workshops and assisted students during their laboratories and course projects.
- Graded some of the research projects and practical assignments developed in the courses.

Courses:

- Coursera's Master's Degree in Artificial Intelligence* ~ Oct 2021 - Dec 2021
- Introduction to Programming* ~ Aug 2021 - Dec 2021
- Data Structures and Algorithms* ~ Jan 2021 - Jun 2021
- Data Structures* ~ Aug 2020 - Jun 2021
- Image Analysis and Processing* ~ Aug 2020 - Dec 2020
- Biomedical Engineering Foundations of Neurosurgery* ~ Jan 2020 - Jun 2020

RESEARCH PROJECTS

- Visual Grounding (Vision & Language):**
Collaboration with Google Research Zurich to create visual grounding benchmarks with high granularity in vision and language.
- Robot-Assisted Surgical Scene Understanding:**
Implementation of video analysis methods for multitask surgical workflow analysis on robot-assisted surgery videos.
- Surgical Risk Prediction:**
Applying deep regression algorithms to predict risk probabilities based on personalized patient variables.
- Robust 3D Medical Image Recognition:**
Use of robust 3D deep learning techniques for knee injury identification on a small amount of MRIs.

PUBLICATIONS

- Panoptic Narrative Grounding.** C. González, N. Ayobi, I. Hernández, J. Hernández, J. Pont-Tuset, P. Arbeláez. Oral Presentation at ICCV 2021.
- Towards Holistic Surgical Scene Understanding.** N. Valderrama, P. Ruiz, I. Hernandez, N. Ayobi, M. Verlyk, J. Santander, J. Caicedo, N. Fernandez, P. Arbeláez. Oral Presentation at MICCAI 2022.
- Development of a Mobile App for Preoperative Evaluation of Sinus CT Scan: One Step Towards Artificial Intelligence.** J. Ospina, C. Forigua, A. Hernandez, N. Ayobi, T. Correa. Journal Paper in Acta de Otorrinolaringología & Cirugía de Cabeza y Cuello.

SKILLS

Programming

Python, Pytorch
Matlab, Java, Bash, \LaTeX
HTML, Docker
C++, SQL, Tensorflow

Languages

Spanish (Native), English (C1)

Soft Skills

Self-taught, Quick Learner, Resourcefulness, Multi-Tasking, Teamwork, Persistence, Leadership

HONOURS & ACHIEVEMENTS

Winner of the 2022 Instrumentation Segmentation and Action Recognition in Robot-Assisted Radical Prostatectomies Challenge (SAR-RARP50)

Sep 2022 MICCAI 2022, Singapore

Winner of a sub-challenge of the Endoscopic Vision Grand Challenge in MICCAI 2022

Cum Laude Bachelor's Graduation Honour

Apr 2022 Bogotá, Colombia

DeepMind-CinfonIA Master's Scholarship

Jan 2022 - Present Bogotá, Colombia

DeepMind's Scholarship Program for complete master's degree coverage.

Uniandinos Excellence Scholarship

Jul 2019 - June 2021 Bogotá, Colombia

50% tuition scholarship awarded to outstanding students with the highest GPAs.

Biomedical Engineering Top 10 GPAs Award

Jun 2020 - Present Bogotá, Colombia

Award given biannually to the best 10 GPAs in the biomedical engineering department.