

ANDRÉS FELIPE VILLA OJEDA

PhD Student in Computer Science

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ABOUT ME

I have always stood out for my responsibility, perseverance, excellent academic results, and good technical and research skills. In this way, I have achieved several academic recognitions, among which Erasmus Mundus scholarship and ANID scholarship awarded by the Chilean government to do a PhD in computer science. Currently, I am PhD student at IALab group PUC, passionate about computer vision. I'm trying to figure out how to give the machines and artificial agents the ability to reason and see the world as human beings do. Inspired by this, I am focusing on learning to recognize novel human actions with few samples and multimodal information like humans do.

DEGREES

PhD in Computer Science

Pontificia Universidad Católica de Chile, Santiago - Chile

Supervisor: PhD. Álvaro Soto

March 2019 - Present

Chile

Bs. Electronic Engineering

Universidad del Norte, Barranquilla - Colombia

GPA: 4.53/5.0, Magna Cum laude

February 2012 - March 2017

Colombia

Academic exchange

Universidad Politécnica de Madrid, Madrid - Spain

September 2015 - July 2016

Spain

PUBLICATIONS

PIVOT: Prompting for Video Continual Learning

Authors: Andrés Villa, Juan León Alcázar, Motasem Alfarrar, Kumail Alhamoud, Julio Hurtado, Fabian Caba Heilbron, Alvaro Soto, Bernard Ghanem

Status: Preprint

2022

Arxiv

vCLIMB: A Novel Video Class Incremental Learning Benchmark

Authors: Andrés Villa, Kumail Alhamoud, Juan León Alcázar, Fabian Caba Heilbron, Victor Escorcia, Bernard Ghanem.

Status: Accepted

Code: is available here

2022

CVPR (ORAL)

TNT: Text-Conditioned Network with Transductive Inference for Few-Shot Video Classification

Authors: Andrés Villa, Juan Manuel Perez Rua, Vladimir Araujo, Juan Carlos Niebles, Victor Escorcia, Alvaro Soto.

Status: Accepted

Code: is available here

2021

BMVC

AWARDS



CVPR LatinX Reviewer Mentoring 2021

It is granted by the LatinX community to train novice reviewers.



ICML LatinX Grant 2020

It is granted by the LatinX community to assist the ICML 2020 conference and receive mentoring.



ANID Scholarship

It was offered by The National Research and Development Agency of Chile to the best students in the world to pursue a PhD program at a top Chilean University - 2019.



Honorable Mention "Graduate of Excellence"

It is granted by "Universidad del Norte" to the best 1% of graduates - 2017.



Scholarship of Sustain-T project

It was offered by Erasmus Mundus to the best Latin American students to do an academic exchange at a top European University like Universidad Politécnica de Madrid, Spain - 2015.



Scholarship "German Seedbed 2014"

Granted by DAAD and Universidad del Norte to study an intensive German language course of seven levels at the Universidad del Norte in Barranquilla, Colombia - 2014.



Scholarship "Caribbean Pride"

It is granted by Universidad del Norte to the best Colombian high school students to study a bachelor's degree at the Universidad del Norte in Barranquilla, Colombia - 2011.

STRENGTHS

Few-Shot Learning

Continual Learning

PyTorch

Adaptative model

Python

Video Understanding

GitHub

Java

Transductive inference

JavaScript

LANGUAGES

English - B2

German - B1

Spanish - Native language



Augmenting BERT-style Models with Predictive Coding to Improve Discourse-level Representations

Authors: Vladimir Araujo, Andrés Villa, Marcelo Mendoza, Marie-Francine Moens, Alvaro Soto.

Status: Accepted

Code: will be available soon

📅 2021

📍 EMNLP

Interpretable Contextual Team-aware Item Recommendation: Application in Multiplayer Online Battle Arena Game

Authors: Andrés Villa, Vladimir Araujo, Francisca Cattán, Denis Parra.

Status: Accepted

doi: 10.1145/3383313.3412211

Code: is available here

📅 2020

📍 ACMRecSys

Blood Flow Simulation in the Femoral Artery

Authors: Camilo Naranjo, Andrés Villa, Juan Vélez, Ricardo Prato, Alberto Cadena, Juan Tello.

Status: Accepted

doi: 10.11989/JEST.1674-862X.71013114

📅 2018

📍 JEST

EXPERIENCE

Remote Research Intern

King Abdullah University of Science and Technology (KAUST)

📅 June 2021 - June 2022

📍 Saudi Arabia

Main topics: Class incremental learning for action classification, Continual learning.

Research assistantship

Pontificia Universidad Católica de Chile.

📅 March 2019 - Present

📍 Chile

Main topics: Few-Shot learning for video understanding, multimodal models, Human action recognition, Attention, transductive inference.

Main projects:

- **Text-Conditioned Network with Transductive Inference for Few-Shot Video Classification:** This project was carried out in collaboration with Researchers from Stanford, Samsung AI and Facebook AI. It aimed to develop a model that can learn to recognize novel classes with few examples. This model takes advantage of the semantic information of action descriptions to adapt the network to each task with novel action classes, giving flexibility to the model. Furthermore, this textual information is used to augment the few labeled instances with those unlabeled, following a transductive inference.
 - **Interpretable Contextual Team-aware Item Recommendation, Application in Multiplayer Online Battle Arena Game:** In this project, the Transformer Encoder was used to leverage the contextual information of each team to get better recommendations and an explanation of these recommendations.
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Teaching assistant

Pontificia Universidad Católica de Chile.

📅 March 2019 - Present

📍 Chile

Courses: Artificial Intelligence, Introduction to programming, Deep Learning, Recommender Systems, Visual Question Answering, Video understanding.

Functions:

- Teach the principal motivations behind the tasks of Video Understanding and Visual question answering and how these tasks have been addressed.
 - Explain inductive artificial intelligence techniques such as SVM, Random Forest, Naive Bayes, Neural Networks, Deep Learning, etc.
 - Prepare exercises for the students.
 - Solve doubts about the laboratories and grade these.
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Software Engineer

IntegralT

📅 July 2017 - February 2019

📍 Colombia

Functions:

- Develop new features for cross-platform applications which are designed for vaccine management using frameworks like Ionic.
 - Develop new web applications and maintain existing ones, both frontend, and backend parts.
 - Deploy the mobile solutions in the Play Store for Android devices and the App Store for iOS devices.
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