

ÁNGEL JOSUÉ VALENCIA ARMIJOS

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EDUCATION

University of Ottawa Ph.D. Electrical & Computer Engineering	Sep 2020 - Present <i>Ottawa, Canada</i>
University of Ottawa M.A.Sc. Electrical & Computer Engineering	Jan 2018 - June 2020 <i>Ottawa, Canada</i>
Escuela Superior Politécnica del Litoral B.Eng. Electronics & Automation	May 2011 - Sep 2016 <i>Guayaquil, Ecuador</i>

SKILLS

Programming	Python, C/C++, MATLAB, Shell, Markdown, LaTeX
Libraries	SciPy, PyTorch, OpenCV, Open3D, PCL, ROS
Simulation	IsaacSim, Bullet, V-REP

EXPERIENCE

Research Internship MDA Space Ltd	Nov 2023 - Present <i>Kanata, Canada</i>
<ul style="list-style-type: none">Developed sensor motion compensation methods for space applications	
Research Internship Spectronix Inc	Jul 2022 - October 2023 <i>Gatineau, Canada</i>
<ul style="list-style-type: none">Developed software for gesture and behavior recognition applications	
Graduate Research Assistant SMART Lab - uOttawa	Sep 2020 - Present <i>Ottawa, Canada</i>
<ul style="list-style-type: none">Investigated methods for robotic manipulation of deformable objects	
Laboratory Instructor FIEC - ESPOL	Apr 2017 - Jan 2018 <i>Guayaquil, Ecuador</i>
<ul style="list-style-type: none">Managed laboratory resources and taught practical classes	
Undergraduate Research Assitant CRV Lab - ESPOL	Jan 2016 - Jan 2017 <i>Guayaquil, Ecuador</i>
<ul style="list-style-type: none">Developed a fruit detection system for robotic grasping	

TEACHING

University of Ottawa	
<ul style="list-style-type: none">Graduate TA, DTI5126: Fundamentals of Applied Data ScienceGraduate TA, IAI5101: Foundations of Machine LearningGraduate TA, CEG4158: Computer Control in RoboticsGraduate TA, ELG5163: Machine Vision	Summer 2022 Winter 2022 Fall 2018 - 2023 Winter 2019 - 2022

SCHOLARSHIPS & AWARDS

Best Poster Award (2nd Place) in TDTS Category - uOttawa Graduate Poster Competition	2024
uOttawa Admission Scholarship	2020
uOttawa International Doctoral Scholarship	2020
CALDO/SENESCYT Ecuador Scholarship	2017

PUBLICATIONS

Conferences

- G. Rouhafzay, **A. J. Valencia**, S. Rowlands, S. Yang, P. Payeur, “Automatic Real-Time Fever Screening in a Thermal Video Surveillance System,” IEEE SAS, 2023.
- **A. J. Valencia**, P. Payeur, “Deformation Modeling for the Robotic Manipulation of 3D Elastic Objects using Physics-Informed Graph Neural Networks,” IEEE CRV, 2023.
- **A. J. Valencia**, F. Nadon, P. Payeur, “Toward Real-Time 3D Shape Tracking of Deformable Objects for Robotic Manipulation and Shape Control,” IEEE SENSORS, 2019.
- D. Plaza, R. M. Idrovo, **Angel J. Valencia**, C. Salazar Lopez, “Enhancing the Performance of the Particle Filtering Optimization Algorithm for the Tuning of PID Controllers”, ICCMA, 2017.
- **A. J. Valencia**, R. M. Idrovo, A. D. Sappa, D. Plaza, D. Ochoa, “A 3D vision based approach for optimal grasp of vacuum grippers”, IEEE ECMSM, 2017.

Journals

- **A. J. Valencia**, P. Payeur, “Combining Self-Organizing and Graph Neural Networks for Modeling Deformable Objects in Robotic Manipulation,” Front. Robot. AI, 2020.
- F. Nadon*, **A. J. Valencia***, P. Payeur, “Multi-modal Sensing and Robotic Manipulation of Non-Rigid Objects: A Survey,” Robotics, 2018.

Thesis

- **A. J. Valencia**, “3D Shape Deformation Measurement and Dynamic Representation for Non-Rigid Objects under Manipulation,” MASc Thesis, University of Ottawa, 2020.
- **A. J. Valencia***, R. M. Idrovo*, “Diseño e implementación de un sistema de reconocimiento y manipulación de frutas utilizando visión artificial y brazo robótico industrial,” BEng Thesis, Espol, 2016.

POSTERS, TALKS & VIDEOS

Posters

- **A. J. Valencia**, R. M. Idrovo, A. D. Sappa, D. Plaza, “A Fruit Recognition and Handling System Using Artificial Vision and Industrial Robot”, IEEE ETCM, 2016.

GRADUATE COURSES

University of Ottawa

- ELG6184: Pattern Classification and Experiment Design Winter 2018
- ELG5163: Machine Vision Winter 2018
- CSI5138: Introduction to Deep Learning and Reinforcement Learning Fall 2018
- ELG5161: Robotics Control, Sensing and Intelligence Fall 2018
- ELG5378: Image Processing and Image Communications Winter 2019
- CSI5151: Virtual Environments Fall 2020
- ELG5218: Uncertainty Evaluation in Machine Learning Winter 2021
- ELG6187: Sensor Fusion for Autonomous Systems Winter 2021

LANGUAGES

English	Fluent
Spanish	Native
French	Basic