

ANGEL JOSUE VALENCIA

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<https://angelvalencia.me>

EDUCATION

University of Ottawa, Ottawa, ON, Canada

Sep 2020 - Present

Ph.D. in Electrical & Computer Engineering

Advisor: Pierre Payeur

University of Ottawa, Ottawa, ON, Canada

Jan 2018 - June 2020

M.A.Sc. in Electrical & Computer Engineering

Advisor: Pierre Payeur

Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador

May 2011 - Nov 2016

B.Eng. in Electronics & Automation

Advisor: Douglas Plaza Guingla

EXPERIENCE

SMART Lab, uOttawa

Sep 2020 - Present

Graduate Research Assistant

Canada

- Developing tools for robotic manipulation of deformable objects

FIEC, ESPOL

Apr 2017 - Jan 2018

Laboratory Instructor

Ecuador

- Managed laboratory resources and taught practical classes

CVR Lab, ESPOL

Jan 2016 - Jan 2017

Undergraduate Research Assistant

Ecuador

- Developed a fruit detection system for robotic grasping

TEACHING

University of Ottawa

- Graduate TA, CEG4158: Computer Control in Robotics

Fall 2018-2020

- Graduate TA, ELG5163: Machine Vision

Winter 2019

Escuela Superior Politécnica del Litoral

- Undergraduate TA, FIEC01800: Electrical Networks Laboratory

Fall 2013-2015

- Undergraduate TA, FIEC00190: Electronics II

Fall 2014

- Undergraduate TA, FIEC05538: Industrial Instrumentation

Winter 2016

TECHNICAL SKILLS

Computer Languages

C/C++, Python, Julia, Matlab/Octave, CUDA, UNIX Shell, LaTeX

Operating Systems

ROS, Ubuntu, Arch Linux, Windows

Libraries

OpenCV, Open3D, PCL, SciPy, PyTorch, Turing

Tools

Vim, Git

SCHOLARSHIPS & AWARDS

CALDO/SENESCYT Scholar - Master's	2018-2020
uOttawa International Admission Scholar - PhD	2020-2024

PUBLICATIONS

Conferences

- **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 Guingla, R. M. Idrovo, **Angel J. Valencia**, C. Salazar Lopez, "Enhancing the Performance of the Particle Filtering Optimization Algorithm for the Tuning of PID Controllers", International Conference on Control, Mechatronics and Automation (ICCMA), 2017.
- **A. J. Valencia**, R. M. Idrovo, A. D. Sappa, D. Plaza Guingla, D. Ochoa, "A 3D vision based approach for optimal grasp of vacuum grippers", IEEE International Workshop of Electronics, Control, Measurement, Signals and their application to Mechatronics (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 Guingla, "A Fruit Recognition and Handling System Using Artificial Vision and Industrial Robot", IEEE Ecuador Technical Chapter Meeting (ETCM), 2016.

GRADUATE COURSES

University of Ottawa

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

LANGUAGES

English	Fluent
Spanish	Native