

# ANGEL J. VALENCIA

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https://angelvalencia.me

## EDUCATION

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| <b>University of Ottawa, Ottawa, ON, Canada</b><br>Ph.D. in Electrical & Computer Engineering<br>Advisor: Pierre Payeur                     | <i>Sep 2020 - Present</i>   |
| <b>University of Ottawa, Ottawa, ON, Canada</b><br>M.A.Sc. in Electrical & Computer Engineering<br>Advisor: Pierre Payeur                   | <i>Jan 2018 - June 2020</i> |
| <b>Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador</b><br>B.Eng. in Electronics & Automation<br>Advisor: Douglas Plaza Guingla | <i>May 2011 - Nov 2016</i>  |

## EXPERIENCE

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| <b>FIEC-ESPOL</b><br><i>Laboratory Instructor</i>   | <i>Apr 2017 - Jan 2018</i><br><i>Ecuador</i> |
| <ul style="list-style-type: none"><li>· Part of teaching staff at Electrical Networks Laboratory.</li><li>· Maintain laboratory equipment and inventory management.</li><li>· Redesign of existing experiments in collaboration with other teaching staff and faculty members.</li><li>· Train teaching assistants overseeing students during lab sessions.</li></ul> |  |
| <b>CVR-ESPOL</b><br><i>Research Assistant</i>   | <i>Jan 2016 - Jan 2017</i><br><i>Ecuador</i> |
| <ul style="list-style-type: none"><li>· Part of team at Vision and Robotics Center.</li><li>· Design an industrial robotic vision system for packaging of tropical fruit.</li><li>· Develop a vision based grasping point detection optimized for vacuum grippers.</li></ul>  |  |

## TEACHING

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| <b>University of Ottawa</b>                                   |                       |
| · Graduate TA, CEG4158: Computer Control in Robotics          | <i>Fall 2018-2020</i> |
| · Graduate TA, ELG5163: Machine Vision                        | <i>Winter 2019</i>    |
| <b>Escuela Superior Politécnica del Litoral</b>               |                       |
| · Undergraduate TA, FIEC01800: Electrical Networks Laboratory | <i>Fall 2013-2015</i> |
| · Undergraduate TA, FIEC00190: Electronics II                 | <i>Fall 2014</i>      |
| · Undergraduate TA, FIEC05538: Industrial Instrumentation     | <i>Winter 2016</i>    |

## TECHNICAL SKILLS

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| <b>Computer Languages</b> | C/C++, Python, Matlab/Octave, CUDA, UNIX Shell, LaTeX |
| <b>Operating Systems</b>  | ROS, Ubuntu, Arch Linux, Windows                      |
| <b>Libraries</b>          | OpenCV, Open3D, PCL, SciPy, PyTorch                   |
| <b>Tools</b>              | Vim, Git  |

## SCHOLARSHIPS & AWARDS

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CALDO/SENESCYT Master Scholar	2018-2020
UOTTAWA International Admission Scholar	2020-2024

## PUBLICATIONS

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### 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

- 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

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### 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

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### University of Ottawa

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|---|--------------------|
| · 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> |
| · ELG5124: Virtual Environments                                     | <i>Fall 2020</i>   |

## LANGUAGES

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<b>English</b>	Fluent
<b>Spanish</b>	Native

## **EXTRA-CURRICULAR ACTIVITIES**

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Attended IEEE ROSE 2019 Conference

Attended Ontario Summer School on HPC 2019