

ANGEL J. VALENCIA

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<https://angelvalencia.me>

EDUCATION

University of Ottawa, Ottawa, Canada

Jan 2018 - April 2020

MSc. in Electrical & Computer Engineering

Advisor: Pierre Payeur

Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador

May 2011 - Nov 2016

BEng. in Electronics & Automation

Advisor: Douglas Plaza Guingla

EXPERIENCE

FIEC-ESPOL

Apr 2017 - Jan 2018

Laboratory Instructor

Ecuador

- Part of teaching staff at Electrical Networks Laboratory.
- Maintain laboratory equipment and inventory management.
- Redesign of existing experiments in collaboration with other teaching staff and faculty members.
- Train teaching assistants overseeing students during lab sessions.

CVR-ESPOL

Jan 2016 - Jan 2017

Research Assistant

Ecuador

- Part of team at Vision and Robotics Center.
- Design an industrial robotic vision system for packaging of tropical fruit.
- Develop a vision based grasping point detection optimized for vacuum grippers.

TEACHING

University of Ottawa

- Graduate TA, CEG4158: Computer Control in Robotics.
- Graduate TA, ELG5163: Machine Vision.

Fall 2018-2019

Winter 2019

Escuela Superior Politécnica del Litoral

- Undergraduate TA, FIEC01800: Electrical Networks Laboratory.
- Undergraduate TA, FIEC00190: Electronics II.
- Undergraduate TA, FIEC05538: Industrial Instrumentation.

Fall 2013-2015

Fall 2014

Winter 2016

TECHNICAL SKILLS

Computer Languages

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

Operating Systems

ROS, Ubuntu, Arch Linux, Windows.

Libraries

OpenCV, Open3D, PCL, SciPy, PyTorch.

Tools

Vim, Git.

SCHOLARSHIPS & AWARDS

CALDO/SENESCYT Master Scholarship.

Dec 2017

Conference Travel Award, University of Ottawa Faculty of Engineering.

Oct 2018

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

- 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 Surface Representation for Non-Rigid Objects under Manipulation,” MSc 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, 2017.

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

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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> |

LANGUAGES

English	Fluent
Spanish	Native

EXTRA-CURRICULAR ACTIVITIES

Attended IEEE ROSE 2019 Conference.
Attended Ontario Summer School on HPC 2019.