ANGEL JOSUE VALENCIA ARMIJOS

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EDUCATION

University of Ottawa — Ottawa, CA
Ph.D. in Electrical & Computer Engineering — *Sep 2020 - Present*
Advisor: Pierre Payeur

University of Ottawa — Ottawa, CA
M.A.Sc. in Electrical & Computer Engineering — *Jan 2018 - June 2020*
Advisor: Pierre Payeur

Escuela Superior Politécnica del Litoral — Guayaquil, EC
B.Eng. in Electronics & Automation — *May 2011 - Nov 2016*
Advisor: Douglas Plaza

EXPERIENCE

SMART Lab, uOttawa — Ottawa, CA
Graduate Research Assistant — *Sep 2020 - Present*

· Developing tools for robotic manipulation of deformable objects

FIEC, ESPOL — Guayaquil, EC
Laboratory Instructor — *Apr 2017 - Jan 2018*

· Managed laboratory resources and taught practical classes

CVR Lab, ESPOL — Guayaquil, EC
Undergraduate Research Assistant — *Jan 2016 - Jan 2017*

· 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

Programming	Python, C/C++, Matlab/Octave, Julia, Bash
Markup	Markdown, LaTex
Platforms	Linux, Nvidia, Intel, Raspberry Pi
Frameworks	ROS, CUDA
Libraries	PyTorch, Turing, DGL, OpenCV, Open3D, PCL, SciPy
Tools	Vim, Git

SCHOLARSHIPS & AWARDS

CALDO/SENESCYT Scholar - Master's *2018-2020*
uOttawa Admission & Doctoral 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, 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