ANA LUCIA CRUZ RUIZ

Robotics Engineer & Science Communicator

CONTACT

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France

PROFILE

Robotics engineer interested in the development of smart motion control solutions and the popularization of science and technology.

SKILLS

ROBOTICS

- Machine learning
- Robot control algorithms
- Robot kinematic analysis
- Robot dynamic analysis
- Programming:
  - MATLAB
  - Python
  - C++
- Dynamic simulations:
  - Simulink
  - V-rep
- Mechanical design:
  - Autodesk Inventor
  - CATIA

WRITING & COMMUNICATION

- Instructive speaker
- Clear and concise writer
- Effective listener
- Attentive to detail
- Organized
- Versatile

EDUCATION

Robotics Nanodegree
Udacity 2017--Now

Machine Learning
Coursera 01-03/2017

PhD in Control and Signal Processing
INRIA, ENS Rennes, France 2013-2016

Master's degree in Advanced Robotics
École Centrale de Nantes, France 2011-2013

Bachelor's degree in Mechatronics
Universidad Tecnológica Centroamericana 2007-2011

PROFESSIONAL EXPERIENCE

ROBOTICS ENGINEER

Robotics R&D engineer (Internship)
IRCCyN & Laval Univ.// France // 2013 (6 months)
Development of software tools to automate the design and analysis of robots by using new performance evaluation criteria. Creation of technical documentation and user manuals.

Mechatronics engineer
3D Solutions // Honduras // 2010 (6 months)
Design of 3D models of plastic products according to client specifications. Assistant in the manufacturing of aluminum molds for the fabrication of plastic products.

TECHNICAL WRITER/COMMUNICATOR

Scientific writer/ reviewer
IRCCyN, INRIA // France // 2013-2016
Writer and reviewer of scientific articles within the scope of my PhD degree. Publications and presentations of conference, journal, and state-of-the-art papers in domains ranging from robotics, to biomechanics, and animation.

Speaker at the "International Girls in ICT Day Event"
Inter. Telecommunications Union // Honduras // 2016

Speaker at an event by IEEE/WIE (Women in Engineering)
WIE, UNITEC // Honduras // 2016

Speaker at the event "Just like robotics, you have a great future"
École centrale de Nantes// France // 2016

Teacher/Tutor Computer Science, Math, Physics, English
Middle school/Personal Tutoring // Honduras // 2006-2011

Translator "Honduras this Week" journal
Honduras this week // Honduras // 2005

ANA LUCIA CRUZ RUIZ

LANGUAGES

ENGLISH (Near native - C2)

SPANISH (Native)

FRENCH (Advanced - C1)

ITALIAN (INTERMEDIATE - B2)

AWARDS

Fondation Centrale Scholarship
Nantes // France // 2012

Speech CIC Bank's Ceremony
Les Invalides// France // 2012

INTERESTS

- Robotics
- Popularization of science and technology
- Planification of interactive robotics workshops for children
- Playing piano (classical, pop/rock)

REFERENCES

STEPHANE CARO, *IRCCyN*
Stephane.Caro@irccyn.ec-nantes.fr

PHILIPPE CARDOU, *LAVAL UNIV.*
Philippe.Cardou@gmc.ulaval.ca

CHARLES PONTONNIER, *ENS*
charles.pontonnier@irisa.fr

PROJECTS

Machine learning-based control strategies for virtual characters
(MATLAB, Simulink, SimMechanics, V-rep, C++)

Automation of industrial task with stäubli RX90/PUMA robots
(V+, Val II)

Toolbox: Simulation of the kinematics and sensors of mobile robots
(MATLAB, Simulink)

ARACHNIS: A GUI for the design of cable-driven parallel robots
(MATLAB)

Design of a 3-DoF planar parallel robot
(MATLAB, CATIA)

PUBLICATIONS

A synergy-based control solution for overactuated characters: application to throwing
Computer Animation and Virtual Worlds // 2016

Muscle-based control for character animation
Computer Graphics Forum // 2016

Motion control via muscle synergies: Application to throwing
8th ACM SIGGRAPH Conf. on Motion in Games // 2015

Identifying representative muscle synergies in overhead football throws
CMBBE// 2015

A bio-inspired limb controller for avatar animation
CMBBE // 2014

ARACHNIS: Analysis of Robots Actuated by Cables with Handy and Neat Interface Software
Second International Conference on Cable-Driven Parallel Robots // 2014

Measuring how well a structure supports varying external wrenches
Second Conference in New Advances in Mechanisms, Transmissions and Applications// 2013

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