

# LUIS ANTONIO ORBEGOSO MORENO



Mechatronic Engineer with great interest and knowledge in the area of robotics, control and automation. With the ability to investigate, learn and apply my knowledge in the professional field, always innovating and looking for the best solutions.

## CONTACT

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## SKILLS

### Programming

<b>Python</b> (matplotlib, scipy, sympy, pandas, opencv, keras, tensorflow, numpy, django, ...)	★★★★★
<b>C++</b>	★★★★★
<b>HTML</b>	★★★★★
<b>CSS</b>	★★★★★
<b>JavaScript</b>	★★★★★
<b>LaTeX</b>	★★★★★

### Operative Systems

<b>Linux</b> (Ubuntu, Raspbian, ROS)	★★★★★
<b>Windows</b>	★★★★★

### Software & Tools

<b>Office automation</b> (Microsoft Excel, Word, PowerPoint; Google Docs, Sheets, Slides, Forms, ...)	★★★★★
<b>Matlab and Simulink</b>	★★★★★
<b>Fusion 360</b> (CAD, CAM and CAE)	★★★★★
<b>Arduino</b>	★★★★★
<b>Github</b>	★★★★★

### Aptitudes

- Punctuality
- Fast learning
- A-1 driver's license
- Work under pressure
- Professional and polite treatment

### Languages

<b>Spanish</b>	★★★★★
<b>English</b>	★★★★★
<b>Portuguese</b>	★★★★★

## CERTIFICATES

- TOEFL iBT 92**  
RENACYT Researcher

## EDUCATION

- Master in Mathematical Engineering**  
04/05/2024 - 20/12/2025  
National University of Trujillo (UNT), Trujillo, Peru
- Microdegree in Artificial Intelligence**  
20/09/2023 - 25/03/2024  
Fusemachines, New York, USA
- Bachelor in Mechatronic Engineering**  
12/04/2018 - 27/01/2023  
National University of Trujillo (UNT), Trujillo, Peru

## ACHIEVEMENTS, HONORS AND RECOGNITIONS

- 🏆 Best Paper Award at 2023 IEEE Colombian Caribbean Conference (C3)
- 🏆 Professional degree thesis in Mechatronic Engineering with honors
- 🏆 Ranked first in the XI graduating class of Mechatronic Engineering
- 🏆 Researcher in training in the ARCAM group 2023
- 🏆 Ranked first in Mechatronics Engineering Undergraduate Admission

## LABOR HISTORY

- IEEE RAS UNT Research Committee Director**  
23/09/2023  
UNT, Trujillo, La Libertad
- Online Tutor of University Subjects**  
19/05/2023 - 01/09/2023  
LatinHire
- University Social Responsibility**  
23/05/2022 - 06/01/2023  
UNT, Trujillo, La Libertad
- Teaching Assistant in Robotics**  
26/09/2022 - 06/01/2023  
UNT, Trujillo, La Libertad
- Teaching Assistant in Power Electronics**  
23/05/2022 - 09/09/2022  
UNT, Trujillo, La Libertad
- Hardware developer**  
15/03/2022 - 30/06/2022  
DELION S.A.C., Trujillo, La Libertad

## COURSES

- Code Foundation for ROS   ROS1   C++   C   C#   Python   Java  
Data Science   Machine Learning   PHP   CSS   HTML   JavaScript  
Introduction to IoT   Introduction to Cybersecurity   NDG Linux  
S7-1200 PLC   Django   IEEE English for Technical Professionals  
Microsoft Excel

# PUBLICATIONS

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Automatic differential kinematics of serial manipulator robots through dual numbers

 **Orbegoso Moreno L.A.** & Valverde Ramírez E.D.

 18/10/2024  Transactions on Energy Systems and Engineering Applications (TESEA)

 TESEA

An Integrated Approach to Robotic Joint Interpolation: Kinematic Modeling and Constraints for Smooth Trajectories

 **Orbegoso Moreno L.A.**, Valverde Ramírez E.D., Ruiz Rodríguez J.L. & Miñano Corro I.D.

 28/06/2024  2024 47th MIPRO ICT and Electronics Convention (MIPRO)

 IEEE Xplore

Direct Calculation of the Jacobian Matrix: Leveraging Dual Numbers in Robot Forward Kinematics

 **Orbegoso Moreno L.A.**, Valverde Ramírez E.D. & Paredes Paulini W.I.

 21/02/2024  2023 IEEE Colombian Caribbean Conference (C3)

 IEEE Xplore

Comparative Study of Iterative Methods for Inverse Kinematics of Redundant Serial Robots with Increasing Degrees of Freedom

 **Orbegoso Moreno L.A.**, Valverde Ramírez E.D., Pasco Sanchez J.M. & Ruiz Rodríguez J.L.

 02/02/2024  2023 IEEE International Autumn Meeting on Power, Electronics and Computing (ROPEC)

 IEEE Xplore

Potato Leaf Disease Detection: Comparative Study of the Performance of CNN Architectures - VGG19, ResNet50 and DenseNet201

 Ruiz Rodríguez J.L., Ruiz Rodríguez J.M., Pasco Sanchez J.M., **Orbegoso Moreno L.A.**, Miñano Corro I.D. & Valverde Ramírez E.D.

 23/01/2024  2023 9th International Conference on Signal Processing and Intelligent Systems (ICSPIS)

 IEEE Xplore

Approach to Inverse Dynamics Model for a Serial 3 DoF Robot Using Neural Networks

 **Orbegoso Moreno L.A.**, Valverde Ramírez E.D., Ruiz Rodríguez J.L. & Pasco Sanchez J.M.

 12/01/2024  2023 IEEE 5th Eurasia Conference on IOT, Communication and Engineering (ECICE)

 IEEE Xplore

Geolocation and Virtual Reality to Streamline the Management of Hydrographic Basins of the Regional Agriculture Management of La Libertad - Peru

 Miñano Corro I.D., Sanchez Peralta W.C., **Orbegoso Moreno L.A.**, Ruiz Rodríguez J.L., Pasco Sanchez J.M. & Valverde Ramírez E.D.

 08/11/2023  2023 7th International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT)

 IEEE Xplore

Poultry Egg Classification System Using Deep Learning

 Pasco Sánchez J.M., **Orbegoso Moreno L.A.**, Ruiz Rodríguez J.L. & Miñano Corro I.D.

 26/06/2023  2023 5th International Congress on Human-Computer Interaction, Optimization and Robotic Applications (HORA)

 IEEE Xplore

An adaptation of FABRIK algorithm for serial robot's inverse kinematics

 **Orbegoso Moreno, L.A.** & Alva, A.

 30/11/2022  2022 IEEE International Conference on Engineering Veracruz (ICEV)

 IEEE Xplore

Control cinemático para un robot cuadrúpedo usando el Método de Newton-Raphson

 **Orbegoso Moreno, L.A.**, Rodríguez, C. & Valverde, E.

 26/04/2021  Revista elektron Vol. 5, No. 1, pp. 77-82

 EleKtron