

# Angelo L. De Castro

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## EDUCATION

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### University of Florida

*Ph.D. Student, Animal Sciences*

Aug. 2024 – present

*Gainesville, FL*

### University of St. La Salle

*B.S. in Electronics Engineering*

June 2018 – May 2022

*Bacolod City, Philippines*

## WORK EXPERIENCE

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### Artificial Intelligence in Animal Omics Sciences Lab

*Graduate Research Assistant*

Aug. 2024 – present

*Gainesville, FL*

- Adviser: Dr. Haipeng Yu, Assistant Professor, Department of Animal Sciences, University of Florida

### Tan Medical Image and Signal Processing Group

*Senior Engineering Research Assistant*

Nov. 2019 – Oct. 2023

*Bacolod City, Philippines*

- Senior capstone project: “Developing an Automated and Cost-Effective Animal Observation and Tracking System with the use of IoT and Machine Learning”
- Adviser: Myles Joshua T. Tan, Assistant Professor of Engineering/Natural Sciences
- Oral Examination Committee: Nouar AlDahoul, PhD (Chief Technology Officer, Yo-Vivo Corporation); Marie Fe Novia, MS (Department Chairperson and Assistant Professor, Department of Electronics Engineering, USLS); Vinosh Mathuranayagam, MS (Chief Information Officer, Yo-Vivo Corporation)
- Special topics project: “The Ebb of Fiat and the Flow of Cryptocurrencies”

### Talarak Foundation Inc.

*Communications Engineering Intern*

June 2021 – Aug 2021

*Bacolod City, Philippines*

- Conducted research and design of tracking systems for wild forest animals using IoT and machine learning
- Assisted in writing and debugging of software
- Provided weekly reports and updates to engineering advisers and wildlife reserve biologists

## PUBLICATIONS

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### Peer Reviewed Journal Articles

- **De Castro, A.**, Wang J., Bonney-King J.G., Morota G., Miller-Cushon E.K., and Yu H. (2025). AnimalMotionViz: an interactive software tool for tracking and visualizing animal motion patterns using computer vision. *JDS Communications*. In press. doi: 10.1101/2024.10.22.619671
- AlDahoul, N., Karim, H.A., **De Castro, A.**, and Tan, M.J.T. (2022). Localization and classification of space objects using EfficientDet detector for space situational awareness. *Scientific reports*, 12(1), 21896. <https://doi.org/10.1038/s41598-022-25859-y>

### Peer Reviewed Conference Proceedings

- Castañeda, J.A.J., **De Castro, A.**, Sy, M.A.G., AlDahoul, N., Tan, M.J.T., & Karim, H.A. (2022, August). Development of a Detection System for Endangered Mammals in Negros Island, Philippines Using YOLOv5n. In *International Conference on Computational Science and Technology* (pp. 435-447). Singapore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-19-8406-8\\_35](https://doi.org/10.1007/978-981-19-8406-8_35)

## TEACHING EXPERIENCE

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### University of Florida

Jan. 2025 – May 2025

*Teaching Assistant (ANS 6932: R Programming in Animal Data Science)*

*Gainesville, FL*

- Course Instructor: Dr. Haipeng Yu, Assistant Professor, Department of Animal Sciences
- Department of Animal Sciences, Class size: 17 (1 Credit)
- Responded to students' questions regarding assignments requirements and grading policies and kept records of student evaluations and grades

### University of St. La Salle

Nov. 2021 – May 2022

*Lead Laboratory Teaching Assistant (Biomedical Devices and Instrumentation)*

*Bacolod City, Philippines*

- Course Instructor: Myles Joshua T. Tan, Assistant Professor of Engineering/Natural Sciences
- Department of Natural Sciences, College of Arts and Sciences, Class size: 22 (1 section)
- Gave lectures on Mathematical Foundations, Python Crash Course, Jupyter Notebook Environment, NumPy, Matplotlib, and Seaborn
- Led a group of 7 laboratory teaching assistants and graded homework and papers
- Responded to students' questions regarding assignments requirements and grading policies and kept records of student evaluations and grades

### University of St. La Salle

Jun. 2021 – May 2022

*Grader (Science, Technology, and Society)*

*Bacolod City, Philippines*

- Course Instructor: Myles Joshua T. Tan, Assistant Professor of Engineering/Natural Sciences
- Department of Natural Sciences, College of Arts and Sciences, Class size: 42 (1 section; first semester); 41 (1 section; second semester)
- Graded home works and assignments, responded to students' questions regarding assignments requirements and grading policies, and kept records of student evaluations and grades

### University of St. La Salle

Jun. 2019 – Nov. 2019

*Teaching Assistant (Differential Equations)*

*Bacolod City, Philippines*

- Course Instructor: Myles Joshua T. Tan, Assistant Professor of Engineering/Natural Sciences
- Department of Chemical Engineering, College of Engineering and Technology, Class size: 30 (1 section)
- Provided lectures on the applications of First-Order Linear Ordinary Differential Equations to finance
- Assisted in the development of course materials and assisted students with Python modeling labs
- Graded home works and assignments, responded to students' questions regarding assignments requirements and grading policies, and kept records of student evaluations and grades

## LICENSE

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**Professional Regulation Commission:** Electronics Engineer, License No.: 007\*\*\*\*, Status: VALID

## AWARDS

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**University of Florida IFAS ANS Partial Assistantships for Dairy Science**

Aug. 2024 – Present

**Awarded “Best Student Paper” for the conference paper published in ICCST**

Aug. 2022

## SYMPOSIUM

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**2024 Proceedings of the 10th UF/IFAS Animal Sciences Symposium**

Oct. 31 - Nov. 1, 2024

*Embassy Suites by Hilton St., St. Augustine, FL 32080*

## WORKSHOP GIVEN

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### Python Workshop

Jul. 18, 2022

**Series:** 1st Annual CAS-CET Discipline-Specific Lecture and Workshop Series on Computational Life and Health Sciences  
**Theme:** Augment: Life Understood and Enhanced Through Computation  
**Workshop:** Basics of Computer Programming in Python and Geographical Plotting Workshop (Business and Economics Cluster)  
**Audience:** Faculty of the College of Engineering and Technology, College of Arts and Sciences, and Yu An Log College of Business and Accountancy, USLS  
**Time:** 9AM to 11AM, 1PM to 3PM

## SPECIAL LECTURE GIVEN

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### Lecture presentation (SVD)

Oct. 2019

**Title:** Applications of Image Compression using Singular Value Decomposition  
**Adviser:** Engr. Myles Joshua T. Tan, Assistant Professor of Engineering and Natural Sciences  
**Audience:** Faculty of the Department of Electronics Engineering, USLS

## SKILLS & INTERESTS

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**Technical Skills:** Python™, MATLAB®, Microsoft® Office®, NI Multisim™, IoT (ESP8266, MQTT, Node.js®), Machine Learning/Deep Learning (TensorFlow, Keras, Sklearn, YOLO, PyTorch), Computer Vision (OpenCV, Python™ Dash), Proteus, GNS3®, Quartus, AutoCAD®, LaTeX(Overleaf), Welding, Soldering, Breadboarding, HTML5, CSS3, NVIDIA® Jetson

**Languages:** Hiligaynon (L1), English (L2, IELTS = 7.0), Tagalog (L2)