

Angelo L. De Castro

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EDUCATION

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

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

RESEARCH EXPERIENCE

Artificial Intelligence in Animal Science Omics Lab

Graduate Research Assistant

Aug. 2024 – present

University of Florida

- 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”

PUBLICATIONS

Preprints

- **De Castro, A.** (2022). The Ebb of Fiat and the Flow of Cryptocurrency. *OSF*.
<https://doi.org/10.31219/osf.io/trpwc>

Peer Reviewed Journal Articles

- **De Castro A**, Wang J, Bonney-King JG, Morota G, Miller-Cushon EK, and Yu H. 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.**, & 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. L.**, 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

TEACHING EXPERIENCE

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

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

AWARDS

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

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

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

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

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

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