Angelo L. De Castro

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Education

University of Florida Aug. 2024 – present
Ph.D. Student, Animal Sciences *Gainesville, FL*

University of St. La Salle June 2018 – May 2022
B.S. in Electronics Engineering *Bacolod City, Philippines*

Work Experience

Talarak Foundation Inc. June 2021 – Aug 2021
Communications Engineering Intern *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

Tan Medical Image and Signal Processing Group Nov. 2019 – Oct. 2023
Senior Engineering Research Assistant *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. L.**, Wang, J., Bonnie-King, J. G., Morota, G., Miller-Cushon, E. K., & Yu, H. (2024). AnimalMotionViz: An interactive software tool for tracking and visualizing animal motion patterns using computer vision. *bioRxiv*. https://doi.org/10.1101/2024.10.22.619671
- **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

- 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

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

Special Lecture Given

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)