Lorenzo S. Querol

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lorenzo-querol

Lorenzo Querol

Education

- **Bachelor's Degree** **2019-2024**
  De La Salle University, Manila, Philippines
  Computer Science with Specialization in Computer Systems Engineering
  Awards: Culture & Arts Office – Gawad Likha, 2020. Most Outstanding Thesis Award – 2nd Place, 2023.

- **Senior High School** **2017-2019**
  De La Salle University, Manila, Philippines
  Science, Technology, Engineering, and Mathematics (STEM) Track
  Awards: Bronze Medalist for Academic Excellence, 2019. Perfect Attendance Award, 2019.
  Microsoft Imagine Cup 2018 – 1st runner-up, 2018

- **Junior High School** **2013-2017**
  O.B. Montessori Center Inc., San Juan, Philippines
  Awards: 3rd place Declamation Contest

- **Grade School (Grade 4-6)** **2010-2013**
  O.B. Montessori Center Inc., San Juan, Philippines

- **Grade School (Grade 1-3)** **2007-2010**
  Robert Gage Elementary School, Rochester, Minnesota, USA

Co-Curricular Activities

- **Insititute for Datability Science, Osaka University, Osaka, Japan** **2023-2024**
  Intelligence and Sensing Lab – Research Intern

- **A-Tune, Osaka University, Osaka, Japan** **2021-Present**
  Student Symposium – Representative, December 2022
  International Member

- **Intelligent Biological and Agricultural Systems Laboratory, De La Salle University** **2021-2024**
  Research Assistant, 2021-2022
  Member

- **Lasallian Youth Orchestra, De La Salle University** **2019-2024**
  Video and Animations Productions Head, 2021-2022
  Assistant Company Manager, 2020-2022
  Winds Section Head, 2020-2022
  Playing Member, Saxophonist

- **Lasallian Computer Society, De La Salle University** **2019-2020**
  Junior Officer Training Program Member
  Member

- **Integrated School Student Ambassadors, De La Salle University** **2018-2019**
  External Relations Head
- **National Institute of Technology – Akashi College, Kobe, Japan** **2018**
  Exchange Student
- **Integrated School Orchestra, De La Salle University** **2017-2019**
  Member, Saxophonist
- **Science Club, O.B. Montessori Center Inc.** **2016-2017**
  Member
- **Mathematics Club, O.B. Montessori Center Inc.** **2016**
  Member
- **Marching Band, O.B. Montessori Center Inc.** **2013-2017**
  Playing Member, Saxophonist

Skills

- **Technical Background**
  - **Programming Languages**
    JavaScript, TypeScript, Python, Java, C, MATLAB, LaTeX
  - **Libraries/Frameworks**
    Pandas, NumPy, scikit-learn, Matplotlib, openCV, PyTorch, TensorFlow, NodeJS, Express, ReactJS, React Native
  - **Databases**
    MySQL, MongoDB
  - **Others**
    Machine Learning, Computer Vision, Web Development
- **Languages**
  - English – Native
  - Filipino – Native
  - Japanese – Intermediate

Projects

- **CALICO: Confident Active Learning with Integrated Calibration**
  An active learning framework designed to efficiently use labeled data for train-time confidence calibration using joint energy-based models.
- **Mobile Application for WSSV Recognition and Surveillance in Shrimp using Deep Learning**
  A mobile application for automated WSSV recognition using deep learning, automated reporting, and geotagging of image data for disease surveillance and monitoring.
- **Cacao Pod Borer Detection**
  A YOLOv5m model trained to count Cacao Pod Borers on sticky paper trap images automatically. The pipeline is converted and embedded into edge-computing devices (i.e., smartphone applications) for offline usage.
  Contributions: Data annotation, preprocessing, and augmentation, mobile application development

Research Publications

- Hacinas, E. A. S., **Querol, L. S.**, Santos, K. L. T., Matira, E. B., Castillo, R. C., Arcelo, M., ... & Rustia, D. J. A. (2024). Rapid Automatic Cacao Pod Borer Detection Using Edge Computing on Low-End Mobile Devices. Agronomy, 14(3), 502.

- **Querol, L. S.**, Cordel, M. O., II, Rustia, D. J. A., & Santos, M. N. M. (2023). Application for White Spot Syndrome Virus (WSSV) Monitoring Using Edge Machine Learning. doi:10.48550/ARXIV.2308.04151

- Hacinas, E. A. S., **Querol, L. S.**, Acero, L., Arcelo, M., Amalin, D. M., & Rustia, D. J. A. (2022). Automated Cocoa Pod Borer Detection Using an Edge Computing-Based Deep Learning Algorithm. 2022 Houston, Texas July 17-20, 2022. Presented at the 2022 Houston, Texas July 17-20, 2022. doi:10.13031/aim.202200238

- Rustia, D. J. A., Hacinas, E. A., Acero, L. A., **Querol, L. S.**, Arcelo, M., & Amalin, D. M. (2022). Applying Generative Adversarial Networks for Sticky Paper Trap Image Generation and Object Detector Performance Enhancement. 2022 Houston, Texas July 17-20, 2022. Presented at the 2022 Houston, Texas July 17-20, 2022. doi:10.13031/aim.202200266

References

- **Hajime Nagahara, Ph.D.**
  Professor, Institute for Datability Science, Osaka University, Japan
  nagahara@ids.osaka-u.ac.jp

- **Dan Jeric A. Rustia, Ph.D.**
  Researcher, Greenhouse Technology Business Unit, Wageningen University and Research, The Netherlands
  dan.rustia@wur.nl

- **Macario O. Cordel II, Ph.D.**
  Data Science Officer, Asian Development Bank, Philippines
  mcordel@adb.org

- **German De Ramos Jr., M.M.**
  Resident Trainer, Lasallian Youth Orchestra, De La Salle University, Philippines
  german.deramos@dlsu.edu.ph

Interests & Hobbies

- Cooking, exercise, playing saxophone, learning Japanese, watching anime, playing games