ERIK AMÉZQUITA

🎓 EDUCATION

current | 2018

PhD Candidate, Computational Mathematics, Science & Engineering
Michigan State University 📍East Lansing, MI

- Focused in quantifying plant morphology using topological data analysis (TDA) and X-Ray CT scans.
- Advisors: Elizabeth Munch and Dan Chitwood
- Awarded the 2022 Fitch H. Beach Award by the College of Engineering for most outstanding engineering graduate research.
- Supported partly by an IMPACTS Fellowship, awarded jointly by MSU and the NRT-NSF program (NSF DGE-1828149).

2018 | 2013

Bachelor of Science, Mathematics
Universidad de Guanajuato 📍Guanajuato, Gto.

- Thesis: Efficient object classification using the Euler characteristic
- Advisor: Antonio Rieser (CONACYT-CIMAT)
- Awarded the 2018 Sotero Prieto Medal by the Mexican Mathematics Society for best undergrad math thesis produced in Mexico.
- Supported by the CIMAT Academic Excellence Scholarship 2013-2018

🖥 RELEVANT RESEARCH EXPERIENCE

current | 2018

Graduate Research Assistant
Chitwood-Munch Lab 📍Michigan State University

- Explored oil glands distribution of Citrus with directional statistics.
- Characterized barley spikes morphology with the ECT and TDA.
- Collected TDA resources in jupyter notebooks. Presented at NAPPN 2022.

📄 RELEVANT PEER–REVIEWED WORK

2022

Measuring hidden phenotype: Quantifying the shape of barley seeds using the Euler Characteristic Transform
E.J. Amézquita, M.Y. Quigley, T. Ophelders, J.B. Landis, D. Koenig, E. Munch, D. H. Chitwood

in Silico Plants 4(1) diab033. DOI: 10.1093/insilicoplants/diab033

2020

The shape of things to come: Topological data analysis and biology, from molecules to organisms
E.J. Amézquita, M.Y. Quigley, T. Ophelders, E. Munch, D.H. Chitwood

Developmental Dynamics. 249(7) pp. 816-833. DOI: 10.1002/dvdy.175

View my full CV online at
`egr.msu.edu/~amezqui3/cv`

CONTACT

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SKILLS

Programming: Python, R, C/C++, bash/unix

Technologies: $\LaTeX$, RMarkdown, jupyter, vim, html/css

Languages: Spanish (native), English (fluent), French (elementary)

Made with the R package ***pagedown***.

Updated on 2022-06-23.