GustavoTogeiro de Alckmin

Postdoctoral Candidate - Precision Agriculture and Remote Sensing

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alckminlab.netlify.app

Gustavo.Alckmin@utas.edu.au

gtalckmin

About me

My main interest is digital agriculture. In order to make it a reality, I apply remote sensing, chemometrics techniques and machine learning.

Goals and Objectives

I am first and foremost an agronomic engineer. My main goal is to bridge the gap between technology and agriculture in areas such as remote sensing, spectroscopy, computer vision, data science and machine learning.

Education

2021 PhD. Thesis: From field to airborne spectroscopy – advancing spectral data analytics for accurate retrieval of perennial ryegrass biomass and feed quality Wageningen University & University of Tasmania
Wageningen (NL) & Hobart (AUS)

2014 MSc. Thesis: Use of Remote Sensing Techniques to Enhance Forage Management:Unmanned Aerial Vehicles Universidad Politecnica de Madrid & Montpellier SupAgro
Madrid (ES) & Montpellier (FR)

2010 BSc. Agronomic Engineering University of São Paulo - College of Agriculture Luiz de Queiroz
Piracicaba, Brazil

Academic exchange as an undergraduate

2010 Academic - Animal Sciences and Forage Management Texas Tech University
United States

2009 Academic - Business & Administration and Economics Wageningen University
The Netherlands

Professional Experiences

2018-2020 Instructor on Image Processing (ENVI), hyperspectral data collection and geospatial statistics Remote Sensing Instructor
Wageningen University and University of Tasmania
- www.utas.edu.au

2014-15 Startup company for UAV development and remote sensing techniques for forage management. Seed Funding and R&D Planning Founder and Research Leader
AB Ag Imagery
- https://www.linkedin.com/in/gtalckmin/

2014 Development of a UAV and deployment of remote sensing techniques for forage assessment Short Term Scholar
Kansas State University
- www.kstate.edu

2013 Analysis and Evaluation of a Vegetation Index Based Livestock Insurance Research Intern
Maison de la Télédétection
- http://www.teledetection.fr/

2010-11 Market Intelligence for Industrial Users, Risk Management, Futures Pricing Advisory, International Sugar Trading Sugar Trader
Czarnikow Sugar
- www.czarnikow.com

2009 Applied research on phytopathology and entomology on wheat, soybean, pinto beans and maize Agricultural Research (Intern)
ABC Foundation
- www.fundacaoabc.org

2008 GIS Teaching Assistant during the inaugural year of Remote Sensing and GIS unit Teacher Assistant
University of São Paulo
- www.en.esalq.usp.br

Teaching Experience

2004	Math and Physics (high-school level) for university admission exams.
2008	GIS and Remote Sensing (undergraduate level) – teacher assistance.
2018-20	GIS, Remote Sensing and Spatial Statistics – teacher assistance.

Language Skills

- Portuguese (Native)
- English (Full Proficiency. TOEFL IBT: 116/120)
- Spanish (Proficient)
- French (Proficient)

Programming Skills

- R and Python
- GIS (ArcGIS, QGIS)
- Remote Sensing (ENVI and Google Earth Engine)
- Photogrammetry (Pix4D, OpenDroneMap and MetaShape)

Awards

2018/2019	Goetz Instrument Award (ASD PanAnalytical).
2016	School of Land and Food Scholarship: Stipend and Tuition (UTAS).
2014	Msc. Thesis Development Grant.
2012	Erasmus Mundus Scholarship – Master of Sciences AgrisMundus.
2010	Capes – FIPSE Scholarship - Consortium for Dryland Development.

Extra-curricular activities

2015-16	Country representative for the YPARD-FAO program.
2012-13	Erasmus Mundus Global Representative for MSc. program AgrisMundus.
2012	Intern Beef Production at Castres (FR).
2010	Intern Beef Production at Fortin del Patria (ARG).
2007	Volunteer as a handler at the horse-riding therapy program.
2004	Volunteer teacher for underprivileged students.

Publications

1. Togeiro de Alckmin, G., Kooistra, L., Rawnsley, R., & Lucieer, A. (2021). Comparing methods to estimate perennial ryegrass biomass: canopy height and spectral vegetation indices. *Precision Agriculture*, *22*(1), 205–225. https://doi.org/10.1007/s11119-020-09737-z

2. Togeiro de Alckmin, G., Kooistra, L., Rawnsley, R., Bruin, S. de, & Lucieer, A. (2020). Retrieval of Hyperspectral Information from Multispectral Data for Perennial Ryegrass Biomass Estimation. *Sensors*, *20*(24), 7192. https://doi.org/10.3390/s20247192

3. Togeiro de Alckmin, G., Lucieer, A., Roerink, G., Rawnsley, R., Hoving, I., & Kooistra, L. (2020). Retrieval of Crude Protein in Perennial Ryegrass Using Spectral Data at the Canopy Level. *Remote Sensing*, *12*(18), 2958. https://doi.org/10.3390/rs12182958

4. Alckmin, G. T., Kooistra, L., Lucieer, A., & Rawnsley, R. (2019). Feature Filtering and Selection for Dry Matter Estimation on Perennial Ryegrass: A Case Study Of Vegetation Indices. *ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, *XLII-2/W13*, 1827–1831. https://doi.org/10.5194/isprs-archives-XLII-2-W13-1827-2019

5. Alckmin, G. T., Merwe, D. van der, José Antonio, M., & Tisseyre, B. (2019). Employing false color infrared cameras for biomass estimation on natural grassland. *European Conference on Precision Agriculture*, 19–20.

6. Torres, R. V., Dias, L. F. R. S., Alckmin, G. T. de, Fiorio, P. R., & Angulo Filho, R. (2007). Influência da cobertura vegetal na precisão do GPS sub-métrico (The influence of different vegetated canopy covers in sub-meter GPS accuracy). *Simpósio Internacional de Iniciação Científica Da Universidade de são Paulo*.