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Tobias Lunt

Data analysis ● Research ● Development economics ● Food security

Experienced data analyst with strong technical and communication skills. Passionate interest in causal inference, machine learning and predictive modeling; experience with assembly, validation, and manipulation of very large datasets; proficient with an array of statistical and operational programming languages. Ambitious, inspired, eager, and a committed team player. Above average googler.

Education

2015 MSc in Agroecology and Plant Pathology (joint degree), University of Wisconsin-Madison
GPA: 4.0/4.0; GRE: 170/170 Quantitative (97p), 169/170 Verbal (97p), 5.5/6.0 Writing (98p)

2008 BA in Environmental Studies, Economics Minor, Dartmouth College
SAT: 1580/1600

Appointments

2017-Present *Research Assistant*, The World Bank and Dartmouth College
Performed development economics research focused on poverty alleviation in India. Scraped, cleaned, and compiled an array of diverse large datasets (millions of data points) to create reproducible and robust causal analysis. Wrote a parallelization program that improved calculation times for my team by an order of magnitude. Wrote software in Stata to create custom aggregates of data flexibly and quickly, on demand, with minimal user input. Worked on remote Linux servers in Stata, Python, Matlab, R, Bash, and LaTeX. Created data visualizations and presentation graphics.

2015-2017 *Research Specialist*, Jahn Research Group, UW-Madison
Investigated risk relationships between food security, food systems, and geopolitical stability. Managed R&D agreement with director-level stakeholders in the intelligence community, NT-50 agencies of US Government, and the humanitarian sector. Led project for Lloyds of London revaluing how insurance and financial stakeholders relate to food system risks.

2016-2016 *Fulbright Scholarship*, agriculture, Addis Ababa, Ethiopia
Fulbrighter to Ethiopia working with the International Potato Center (CIP), FAO, and Addis Ababa University to assess opportunities and constraints in key Ethiopian crop value chains, as well as the perception and prioritization of livelihoods and NRM approaches in rural communities. Designed and implemented survey instruments, analyzed primary and secondary data, and drafted manuscripts for pulication.

2015-2016 *Research Intern*, ACDI/VOCA, Lusaka, Zambia
Researcher for PROFIT+, a $20M+ USAID-flagship Feed The Future agricultural markets development project in Zambia. Designed, conducted, and drafted analytical report on climate risk analysis in crop value chains in Eastern and Lusaka provinces. Performed stakeholder interviews, historical climate data analysis, trade and policy analyses, and literature

review. Provided key insight into project-related climate resilience and project performance.

2014-2015   *Graduate Student Researcher*, Global Health Institute, UW-Madison
Conducted food security indicator analysis for collaborative, multi-center project in Ethiopia, centered on integrated agricultural and health interventions in rural communities.

2012-2015   *Graduate Student Researcher*, MacGuidwin Laboratory, UW-Madison Plant Pathology
Research assistant on nematode-fungal synergy and agroecology on Maize in MacGuidwin Laboratory while pursuing a joint MSc in Agroecology and Plant Pathology.

Grants, Honors & Awards

2015-2016	Fulbright Scholarship in Agriculture to Ethiopia
2015-2016	Honorary Fellow, UW-Madison Center for Sustainability and the Global Environment (SAGE)
2014	Phi Kappa Phi honor society Zillman research award
2014	Phi Kappa Phi honor society "Love of Learning" award
2014	UW-Madison Plant Pathology Department travel award
2014	UW Agroecology Deparment professional development award
2012	O.N. Allen Graduate Scholarship

Publications & Presentations

PEER-REVIEWED JOURNAL ARTICLES

2017   **Tobias Lunt**, Jim Ellis-Jones, Kindu Mekonnen, Steffen Schulz, Peter Thorne, Elmar Schulte-Geldermann and Kalpana Sharma. "Participatory Community Analysis: identifying and addressing challenges to Ethiopian smallholder livelihoods." *Development in Practice* 28.2 (2018): 208-226.

2016   **Tobias Lunt**, Aled W. Jones, William S. Mulhern, David P.M. Lezaks, Molly M. Jahn (2016). "Vulnerabilities to agricultural production shocks: An extreme, plausible scenario for assessment of risk for the insurance sector." *Climate Risk Management*, 13, 1-9.

2016   Heidi A Busse, Mariama Fofanah, Steffen Schulz, **Tobias Lunt**, Girma Tefera (2016). "Wealth matters: Prevalence and predictive indicators of food insecurity in the Sidama and Wolayta zones of Southern Ethiopia." *Journal of Hunger and Environmental Nutrition*, 11:1, 45-58.

UNDER REVIEW

2018   **Tobias Lunt**, Julius Okello, Norman Kwikiriza, Elmar Schulte-Geldermann, Asheber Kifle, Wellington Jogo, Shawkat Begum, and Kalpana Sharma. "Analysis of adoption and impacts of potato diffused light stores in Ethiopia: A mixed methods approach" *Submitted*.

NEWSPAPER ARTICLES AND REPORTS

2016   Tobias Lunt (February 1, 2016), "Conservatives Want To Fix the Climate." *Huffington Post*

2015   Lloyds of London (June 6, 2015), "Food System Shock: The Insurance Impacts of Acute Disruption to Global Food Supply." *Lloyds of London Emerging Risk Report*

2015   Tobias Lunt and Molly Jahn (June 19, 2015). "The Climate Corner: The Need to Live Within Our Means." *The Peninsula Pulse*

PRESENTATIONS

2014   "Wealth matters: An assessment of indicators that predict food insecurity in the Sidama and Wolayta zones of Southern Ethiopia." *5th Annual CUGH*: "Advancing Global Health in the Post-MDG Era." Washington, DC.

2014   "Linking Agriculture and Health: A cross-sectoral approach to measure and improve nutrition and food security in Southern Ethiopia." *8th annual Future of Food and Nutrition conference.* Tufts University.

2014   "Prevalence and predictive indicators of food security in the Sidama and Wolayta zones of Ethiopia." *10th Annual GHI Symposium*: "One health: making the connections." Madison, WI.

2014   "Interaction studies of Pratylenchus penetrans and Fusarium verticillioides on corn seedlings." *APS CPS annual meeting.* Minneapolis, MN.

Student Leadership

2014   **Agricultural Innovation Prize**, *President of Organizing Team.* Led development and deployment of new innovation contest - the largest of its kind - awarding $240,000 in prizes.

2013-2015   **International Agriculture Colloquium**, *President, Co-Founder.* Formed and led student group, uniting and strengthening international research across campus silos.

2013-2014   **One Acre Fund**, *Graduate Student Rep.* Led OAF outreach and recruiting efforts at UW-Madison.

Professional Activities

Referee service: *World Development*, *Food Security*, *Development in Practice*
Professional memberships: American Economic Association.

Selected Technical Skills

Advanced statistical programming and data management capacities
Experience in the application of machine learning to causal inference
Languages: R, Stata, Python, Bash, Matlab, LaTeX, HTML/CSS
Tools: Emacs, QGIS, SVN/Git, cloud computing (AWS Paperspace)
Machine learning techniques: random forests, clustering, neural nets
Deep learning: computer vision, structured data, NLP and generative text (LSTM)
Familiarity with SQL, PyTorch, Tensorflow, SAS, Java
Spoken languages: Intermediate French, beginner Spanish, Italian, and Amharic
Cultivating rigor and joy