

# AISHWARYA VENKAT

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## PROFESSIONAL SUMMARY

Experienced geospatial analyst studying food systems resilience and climate-food-health nexus. Strengths include spatiotemporal alignment and data wrangling in Python and R to extract novel interdisciplinary insights. Recent subject matter expertise includes extreme weather event measurement from remote sensing data, and linkages to food security including acute malnutrition seasonality, diet costs and affordability, and famine early warning.

## EDUCATION

- Friedman School of Nutrition Science and Policy, Tufts University** May 2024  
PhD, Agriculture, Food, and Environment  
*Dissertation:* Climate and Health: Extreme Events, Food Systems, and Nutrition
- School of Engineering, Tufts University** May 2018  
MS, Environmental and Water Resources Engineering  
Certificate in Water Systems, Science, and Society  
*Thesis:* Sub-Basin Valuation of Groundwater in California, 2000-2016
- Virginia Polytechnic Institute and State University (Virginia Tech)** May 2014  
BS, Biological Systems Engineering  
Secondary Major Certificate, French

## SKILLS

<i>Spatial analysis:</i> R, Python, ArcGIS, QGIS, Geoda	<i>Scientific communication and writing</i>
<i>Econometric modeling:</i> R, Python, Stata	<i>Ideation and methodology development</i>
<i>Languages:</i> English, French, Tamil, Hindi	<i>Activity management and training</i>

## EXPERIENCE

- Consultant, The Micronutrient Forum** 2023-2023  
Developed and drafted literature review of climate hazard measurement in nutrition  
Performed analysis of extreme weather effects on stunting and wasting outcomes using 30 years of USAID Demographic and Health Surveys
- Research Assistant, Food Prices for Nutrition** 2020-2021  
Conducted comparison of least-cost diets using WB ICP data and 11 dietary guidelines  
Established codebase and completed joint evaluation of Healthy Diet Basket guideline  
Developed technical tools to facilitate calculation of Cost of Healthy Diet

**Research Assistant, Feinstein International Center (FIC)**

2018-2020

- *Contribution:* Conducted analysis of anthropometric and climatological data to contextualize acute malnutrition trends in Kenyan drylands  
*Activity:* [NAWIRI \(MILE\) Development and Food Security Activities in Kenya](#)  
*Project Leads:* CRS, FIC
- *Contribution:* Performed study of long-term climate patterns in Darfur  
*Activity:* [Taadoud Transition to Development Project](#)  
*Project Leads:* DFID, FIC
- *Contribution:* Implemented study of short-term (1990-present) seasonal patterns of climatic indicators in the Darfur region and links to farmer-herder violence  
*Output:* [Twin peaks: seasonality of acute malnutrition, conflict, and environment](#)  
*Project Leads:* FAO, FIC

**Research Assistant, Center for Humanitarian Change**

2019-2019

*Contribution:* Studied alignment of Integrated Phase Classification (IPC) and Household Hunger Scale (HHS) in SMART contexts with survey data from 336 households  
*Output:* [Classifying Acute Food Insecurity Using the Household Hunger Scale: Evidence from Three Countries](#)

**GIS Lab Assistant, Data Lab at Tufts University**

2014-2018

Assisted students and faculty with geospatial projects  
Designed and led *Intro to QGIS* and *Mapping Open Data in R* workshops

**EcoHealthNet Research Exchange, EcoHealth Alliance**

Summer 2017

Collected data on commercial poultry production and live markets in seven countries for the *African Sustainable Livestock 2050* project  
Generated network diffusion models from World Bank LSMS and USAID DHS surveys  
Identified continental drivers of emerging infectious diseases using geostatistical models

**Analysis Intern & Consultant, International Water Management Institute**

2016-2017

Evaluated target and actual progress across all WLE programs in 2015 and 2016  
Mapped impact pathways and identified evidence gaps  
Documented activities, goals, and targets for the 2015 and 2016 WLE Annual Reports

**Water Program Intern, Ceres Inc.**

Fall 2015

Analyzed water risks in food, beverage, agriculture and oil and gas sectors  
Developed data analyses and visualizations related to California drought

**Research Assistant, AidData at the College of William and Mary**

Summer 2015

Harmonized climate and demographic covariates for geospatial impact evaluation of indigenous lands project in the Brazilian Amazon

**Consultant***Spring 2015*

Implemented vulnerability analysis to identify communities with low supply and high demand of basic human services in Jalisco, Mexico

Output: [Estudio de identificación de las áreas de intervención estratégica que contribuyan a superar la pobreza en Jalisco](#)

**GIS Intern, City of Medford, Massachusetts***Spring 2015*

Updated stormwater and sewer geodatabases, developed work maps

**Research Assistant, WASH Advocates***Summer 2014*

Matched areas of highest cholera incidence with responders in Haiti and DR  
Compiled congressional briefs, contributed to H.R. 2901 Water for the World Act

**TEACHING ACTIVITIES AND ASSISTANTSHIPS**

- UEP 294: Spatial Statistics, Tufts University (Spring 2019)
- Tufts University GIS Data Lab Assistant (Fall 2014 – Spring 2018)
- EN 1: Applications of Climate Change Engineering, Tufts University (Fall 2016)
- CEE 194: Intro to GIS, Tufts University (Summer 2016)
- ENVR-S 171: Water, Health and Sustainable Development, Harvard University Extension School (Spring and Summer 2016)

**HONORS AND AWARDS**

Outstanding Recent Alumni, Virginia Tech College of Agriculture and Life Sciences 2020  
N. Bruce and Lorry Hanes Endowed Fellowship 2016  
United States Geospatial Intelligence Foundation Scholarship 2015  
J. Lawrence & Lucille G. Calhoun Scholarship, 2013

**VOLUNTEER ACTIVITIES**

*2023 Tufts University Famine Forecasting Hackathon*

Collaborated with interdisciplinary team of conveners to compile presentations and datasets, designed [website](#), facilitated analysis and discussions with two global teams

*Co-Chair, 2018 Nutrition Data Summit*

Coordinated with student volunteer committee to plan sessions, invited and scheduled panelists and plenary speakers, managed event logistics, designed website and program

## PUBLICATIONS

Headey, D., and **A. Venkat**. (2024). [Extreme weather and undernutrition: A critical but constructive review of the literature](#). IFPRI Discussion Paper 02236. Washington, DC: International Food Policy Research Institute.

**Venkat, A.**, Marshak, A., Young, H., & Naumova, E.N (2023). [Seasonality of Acute Malnutrition in African Drylands: Evidence From 15 Years of SMART Surveys](#). Food and Nutrition Bulletin. 44(2\_suppl):S94-S108. doi:10.1177/03795721231178344.

Cliffer, I.R., Marshak, A., Schneider, K.R., **Venkat, A.**, Naumova, E.N., 2023. [Seasonality of nutrition](#). In: Caballero, B. (Ed.), Encyclopedia of Human Nutrition, vol. 4. Elsevier, Academic Press, pp. 350–368.

Herforth, A., **Venkat, A.**, Bai, Y., Costlow, L., Holleman, C. & Masters, W.A. (2022). [Methods and options to monitor the cost and affordability of a healthy diet globally. Background paper for The State of Food Security and Nutrition in the World 2022](#). FAO Agricultural Development Economics Working Paper 22-03. Rome, FAO.

Marshak, A., **Venkat, A.**, Young, H., & Naumova, E. N. (2021). [How seasonality of malnutrition is measured and analyzed](#). International Journal of Environmental Research and Public Health, 18(4), 1828.

Herforth, A., Bai, Y., **Venkat, A.**, Mahrt, K., Ebel, A., & Masters, W. A. (2020). [Cost and affordability of healthy diets across and within countries: Background paper for The State of Food Security and Nutrition in the World 2020](#). FAO Agricultural Development Economics Technical Study (Vol. 9). Food and Agriculture Organization.

**Venkat, A.**, Falconi, T. M. A., Cruz, M., Hartwick, M. A., Anandan, S., Kumar, N., Ward, H., Balaji, V., & Naumova, E. N. (2019). [Spatiotemporal Patterns of Cholera Hospitalization in Vellore, India](#). International Journal of Environmental Research and Public Health, 16(21), 4257.

Simpson, R. B., **Venkat, A.**, Alarcon, T., Chui, K., Naumov, Y., Gorski, J., Bhattacharyya, S. & Naumova, E. (2019). [Calendar effects to forecast influenza seasonality: A case study in Milwaukee, WI](#). Online Journal of Public Health Informatics, 11(1).

**Venkat, A.** (2018). [Sub-basin Valuation of Agriculture: A Crop-specific Assessment of Groundwater Footprints and Value in California](#). (Master of Science dissertation, Tufts University).

Cruz, M. S., Alarcon-Falconi, T. M., Hartwick, M. A., **Venkat, A.**, Ehrlich, H. Y., Anandan, S., & Naumova, E. N. (2017). [From hospitalization records to surveillance: The use of local patient profiles to characterize cholera in Vellore, India](#). PloS one, 12(8), e0182642.