

Tyler James Frazier, Ph.D.

✉ tyler.j.frazier@icloud.com

🌐 <https://www.linkedin.com/in/tylerjamesfrazier/>

🌐 <https://www.ornl.gov/staff-profile/tyler-j-frazier>

🌐 <https://tyler-frazier.github.io>

Employment

Sept 2021 to present	📌 R&D Associate Research Scientist , Oak Ridge National Laboratory
June 2021 to November 2023	📌 Co-founder & CEO , Moveflow Technologies
June 2015 to Dec 2021	📌 Lecturer of Data Science , College of William & Mary
Dec 2013 to Mar 2015	📌 Senior Researcher , Center for Development Research at the Uni-Bonn
Mar 2013 to Sept 2013	📌 Post-doctoral Fellow , Santa Fe Institute
Sept 2010 to Feb 2013	📌 Senior Research Scientist Institute for Transportation System Planning and Telematics at the TU-Berlin
Oct 2006 to Sept 2010	📌 Doctoral Fellow , Center for Development Research at the Uni-Bonn
Mar 2005 to Oct 2006	📌 Senior Planner , CPH Engineers, Ft Myers, Florida
June 2003 to Mar 2005	📌 Senior Planner , Lee County DCD, Ft Myers, Florida
May 2001 to June 2003	📌 Planner II , Brunswick County CDD, Brunswick, Georgia

Education

2006 to 2011	📌 PhD in Geography , University of Bonn Dissertation: <i>Powering Accra: Projecting Electricity Demand for Ghana's Capital City</i> Graduated <i>magna cum laude</i> (1.0) with Rheinhard Selten on Dissertation Committee
1999 to 2001	📌 MS in City and Regional Planning , Georgia Institute of Technology Applied Research Paper: <i>Wastewater Reuse and the Residential Environment in Atlanta, Georgia</i> Completed core undergrad math/science in parallel for admission to Master of Mechanical Engineering program
1996 to 1999	📌 BFA in Architectural History , Savannah College of Art and Design Senior Thesis: <i>Evidence of an Emerging Pedagogical Ideal as Observed in the Early Public Schools in Savannah, Georgia</i> Outstanding Achievement in Architectural History

Publications





- 1 Cunningham, A. R., Tuccillo, J. V. & **Frazier, T. J.** *Building Alternative Indices of Socioeconomic Status for Population Modeling in Data-Sparse Contexts* in *12th International Conference on Geographic Information Science (GIScience 2023)* (eds Beecham, R., Long, J. A., Smith, D., Zhao, Q. & Wise, S.) 277 (Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl, Germany, 2023), 25:1–25:7. ISBN: 978-3-95977-288-4. [doi:10.4230/LIPIcs.GIScience.2023.25](https://doi.org/10.4230/LIPIcs.GIScience.2023.25).
- 2 Dias, P. A. *et al.* in *Handbook of Geospatial Artificial Intelligence* (eds Gao, S., Hu, Y. & Li, W.) 261–286 (CRC Press, 2023). [doi:10.1201/9781003308423](https://doi.org/10.1201/9781003308423).
- 3 Schneider, K. R. *et al.* The state of food systems worldwide in the countdown to 2030. *Nature food* **4**, 1090–1110. ISSN: 2662-1355. [doi:10.1038/s43016-023-00885-9](https://doi.org/10.1038/s43016-023-00885-9) (Dec. 2023).

- 4 Woody, C. & **Frazier, T. J.** *Waffle Homes: Utilizing Aerial Imagery of Unfinished Buildings to Determine Average Room Size* in *12th International Conference on Geographic Information Science (GIScience 2023)* (eds Beecham, R., Long, J. A., Smith, D., Zhao, Q. & Wise, S.) 277 (Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl, Germany, 2023), 85:1–85:6. ISBN: 978-3-95977-288-4.
[doi:10.4230/LIPIcs.GIScience.2023.85](https://doi.org/10.4230/LIPIcs.GIScience.2023.85).
- 5 **Frazier, T. J.** *Final Report: Developing an Urban Simulation System for a Major West African City Project* Award: 224,500 € (VolkswagenStiftung: Funding Initiative in Computational Sciences: New Conceptual Approaches to Modeling and Simulation of Complex Systems, 2014).
- 6 **Frazier, T. J.** & Alfons, A. *Generating a Close-to-Reality Synthetic Population of Ghana*. SSRN.
[doi:10.2139/ssrn.2086345](https://doi.org/10.2139/ssrn.2086345) (June 2012).
- 7 **Frazier, T. J.** *Powering Accra: Additional Findings, Results and Basis for further Policy Recommendations in ESRI International User Conference Proceedings* (July 2011).
- 8 **Frazier, T. J.** *Transforming Accra towards a Sustainable Future: Comprehensive Land Use Planning and the Greater Accra Urban Simulation System (GAUSS)*. *Viewpoints V*.
<https://ugecviewpoints.files.wordpress.com/2015/01/ugec-viewpoints-5.pdf> (Apr. 2011).
- 9 **Frazier, T. J.** & Alfons, A. *A. Simulating a Close-to-Reality Synthetic Population of the Greater Accra Region* in *12th international conference on Computers in Urban Planning and Urban Management* (July 2011).
- 10 Lopez, H. & **Frazier, T. J.** *The Impact of Demographic Change on the Accessibility to Public Services for the Elderly on Children of Hannover, Germany*. *Viewpoints VI*.
<https://ugecviewpoints.files.wordpress.com/2015/01/ugec-viewpoints-6.pdf> (Nov. 2011).
- 11 **Frazier, T. J.**, Le, Q. B. & Vlek, P. *Powering Accra: Projecting Electricity Demand for Ghana's Capital City*. in *International Conference on Urbanization and Global Environmental Change* (Oct. 2010).
- 12 **Frazier, T. J.** in *GLOWA Volta. Phase III completion report. Report period: 01.06.2006 – 31.05.2009* (eds Liebe, J., Arntz, C. & Vlek, P. L.) 32–40 (Bundesministerium für Bildung und Forschung, 2009).
- 13 Leemhuis, C. *et al.* *The Impact of Agricultural and Hydropower Development: A Water Allocation System for the Volta Basin* in *International Conference on Global Change and Water Resources in West Africa: the German-African GLOWA projects* (2008).

Teaching at William & Mary

- | | | |
|----------|---|--|
| DATA 444 | 📖 | Agent-Based Modeling: Simulating Human Development Processes from Neighborhood to Regional Scales . Fall 2021 & 2020 |
| DATA 424 | 📖 | Mentored Data Science Teaching. Spring 2020 & Fall 2021 |
| DATA 390 | 📖 | Directed Research. Spring 2020 & Fall 2021 |
| DATA 310 | 📖 | Applied Machine Learning . Summer 2021 & 2020 |
| DATA 150 | 📖 | Evolving Solutions: Human Development and Data Science . Fall 2015 to Spring 2021 |
| DATA 146 | 📖 | Introduction to Data Science . Spring 2021 |
| DATA 100 | 📖 | Wicked Problems: The New Data Paradigm and Emergent Human Development Processes . Summer 2015 to Spring 2021 |
| Advisees | 📖 | 29 Data Science Major advisees from 2019 to 2021 |

Invited Lectures & Talks

- February 25, 2021  [Slice of Data Science at the College of William & Mary with Sina Booeshaghi from Cal Tech](#)
- February 11, 2021  [Slice of Data Science at the College of William & Mary with Caleb Robinson from Microsoft AI for Good](#)
- April 10, 2018  [One Tribe Day at the College of William & Mary. Out of Left Field: A Roundtable on Surprises and Successes in Field Research](#)
- August 22 & 23, 2013  [Urbansim User Meeting in Oakland, California. An International Perspective: Accra, Ghana.](#)
- November 28 & 29, 2012  [Herrenhausen Symposium in Hannover, Germany. "Already Beyond? – 40 Years Limits to Growth": Where shall they all go? – Demographic Challenges and Limited Space](#)
- Summer 2012  [Lecture in the Department of Geography and Resource Development at the University of Ghana-Legon](#)
- Summer 2011  [Lecture in the Department of Planning at the Kwame Nkrumah University of Science and Technology](#)
- Spring of 2010 & 2011  [Repeated Series of lectures on Land-use Modeling, Methodological Basics and Spatial Disaggregation invited by Prof. Dr.-Ing. Gebhard Wulfhorst from the Department of Housing Structure and Transportation Planning at the TU-Munich.](#)

Technical Skills

R: terra, spatstat, lidR, sf, tidyverse, raster, sp; **python:** tensorflow, scikit-learn, pdal, UrbanSim; **java:** MATSim; **c++:** disparity mapping; **linux/ubuntu:** git, docker, HPC-VMs with GPUs & CPUs; **google cloud/AWS**

Certifications

2004 American Institute of Certified Planners (AICP)

References

Available on Request