

## EDUCATION

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<b>Harvard T.H. Chan School of Public Health</b> Ph.D. in Biostatistics	Boston, MA 2022–Present
<b>University of Massachusetts Dartmouth</b> B.S. in Data Science, GPA: 4.0/4.0	North Dartmouth, MA 2018–2022

## EXPERIENCE

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<b>Research Assistant, Computational Statistics &amp; Data Science Lab</b> <i>University of Massachusetts Dartmouth</i>	North Dartmouth, MA 2020–2022
<ul style="list-style-type: none"><li>– Developed R package for COVID-19 modeling in small areas</li><li>– Prepared journal and conference papers on topics in smart health and autonomous driving</li><li>– Used SAS to harmonize data from multiple dietary studies in Massachusetts</li></ul>	
<b>Project Manager, Research in Industrial Projects for Students</b> Institute for Pure and Applied Mathematics, UCLA	Los Angeles, CA Summer 2021
<ul style="list-style-type: none"><li>– <i>Client:</i> The Aerospace Corporation</li><li>– Led team to develop object tracking simulation software and dashboard</li><li>– Presented results weekly to client scientists and executives</li></ul>	
<b>Research Experience for Undergraduates: Ecological Modeling</b> University of Wisconsin La Crosse	Remote Summer 2020
<ul style="list-style-type: none"><li>– Led team to develop novel forest cover classification map using R</li><li>– Presented results to U.S. Geological Survey and U.S. Army Corps of Engineers</li></ul>	
<b>Research Assistant, Public Policy Center</b> University of Massachusetts Dartmouth	North Dartmouth, MA 2019–2020
<ul style="list-style-type: none"><li>– Analyzed socioeconomic data and created infographics for non-technical audiences</li><li>– Scraped US Patent and Trademark Office data using Python</li></ul>	

## PUBLICATIONS

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- [1] **S. V. Balkus**, H. Fang, and H. Wang, “Federated fuzzy clustering for decentralized longitudinal behavioral health data”, *submitted to IEEE Transactions on Big Data*, 2022.
- [2] **S. V. Balkus**, H. Wang, B. D. Cornet, C. Mahabal, H. Ngo, and H. Fang, “A survey of collaborative machine learning using 5G vehicular communications”, *IEEE Communications Surveys & Tutorials*, vol. 24, no. 2, pp. 1280–1303, 2022.
- [3] **S. V. Balkus** and D. Yan, “Improving short text classification with augmented data using GPT-3”, *arXiv*, 2022, Online: <https://arxiv.org/abs/2205.10981>.
- [4] V. S. Gurugubelli, H. Fang, J. M. Shikany, **S. V. Balkus**, J. Rumbut, H. Ngo, H. Wang, J. J. Allison, and L. M. Steffen, “A review of harmonization methods for studying dietary patterns”, *Smart Health*, vol. 23, p. 100263, Mar. 2022.

- [5] **S. V. Balkus**, H. Fang, J. Rumbut, A. Moormann, and E. Boyer, “A multi-level biosensor-based epidemic simulation model for COVID-19”, *IEEE Internet of Things Journal*, pp. 1–1, 2021.
- [6] **S. V. Balkus**, J. Rumbut, H. Wang, and H. Fang, “An adaptive and dynamic biosensor epidemic model for COVID-19”, in *2020 IEEE 21st International Conference on Information Reuse and Integration for Data Science (IRI)*, IEEE, Aug. 2020.

## PRESENTATIONS

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1. “Improving Natural Language Classification with Augmented Data from GPT-3,” *University of Massachusetts Dartmouth, April 2022*
2. “Language Models That Teach Themselves: Augmenting Training Data for Topic Classification Using GPT-3,” *ASA Boston Chapter Student Research Symposium on Statistics and Data Science, April 2022*
3. N. Pai, **S. V. Balkus** and T. Zeng, “Multi-Hypothesis Tracking of Space Objects and Targets,” *AMS Joint Mathematics Meetings (JMM) Poster Session, April 2022*
4. N. Pai, **S. V. Balkus**, T. Zeng, and E. Sosa. “Multi-Hypothesis Tracking of Space Objects and Targets,” *Institute for Pure and Applied Mathematics, August 2021*
5. “Multi-Level Biosensor-based Epidemic Forecasting in Small Areas,” *ASA Joint Statistical Meetings, August 2021*
6. “Lunchtime Computing: Basics of AWS Sagemaker,” *Center for Science Computing and Visualization Research, University of Massachusetts Dartmouth, February 2021*
7. “A Classification System for Characterizing Diversity Across Floodplain Forests of the Upper Mississippi River System,” *University of Wisconsin La Crosse, August 2020*
8. “Lunchtime Computing: Getting Started with Git and GitHub,” *Center for Science Computing and Visualization Research, University of Massachusetts Dartmouth, February 2020*

## SCHOLARSHIPS AND AWARDS

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| • National Science Foundation Graduate Research Fellowship   | 2022      |
| • Academic Excellence Award: Honors College, <i>University of Massachusetts Dartmouth</i>          | 2022      |
| • Academic Excellence Award: College of Engineering, <i>University of Massachusetts Dartmouth</i>  | 2022      |
| • John H. Ohly Award for Outstanding Economics Minor, <i>University of Massachusetts Dartmouth</i> | 2022      |
| • Best Overall Analysis, <i>American Statistical Association DataFest</i>                          | 2022      |
| • Best Data Visualization, <i>American Statistical Association DataFest</i>                        | 2021–2022 |
| • Travel Award, <i>AMS Joint Mathematics Meetings</i>  | 2021      |
| • Dean’s Scholarship, <i>College of Engineering, University of Massachusetts Dartmouth</i>         | 2021      |
| • Chancellor’s List, <i>University of Massachusetts Dartmouth</i>                                  | 2018–2022 |
| • University Commonwealth Scholarship, <i>University of Massachusetts Dartmouth</i>                | 2018      |

## SKILLS

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- **Programming:** Python, R, MATLAB, C
- **Computing:** Git, Linux, SQL
- **Writing:** L<sup>A</sup>T<sub>E</sub>X, Microsoft Office

## SERVICE ACTIVITIES

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### Session Chair

2022

*ASA Boston Chapter Student Research Symposium on Statistics and Data Science*

- Chaired Session on Biostatistics

### President

2020–2022

*Big Data Club, University of Massachusetts Dartmouth*

- Organized data science workshops
- Created marketing campaigns to boost membership
- Led annual DataFest teams to win multiple awards
- Networked with local clients for consulting projects

### Student Panelist

2019–2022

*University of Massachusetts Dartmouth*

- Presented opportunities in data science to prospective and incoming students

### Honors Council Representative

2018–2020

*University of Massachusetts Dartmouth*

- Organized social activities for students in the university's Honors Program