

# Amelia Tarren

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## EDUCATION

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<b>University of Vermont</b> <i>Masters of Science in Applied Mathematics</i>	Burlington, Vermont <i>Dec. 2018- Jan. 2020, Expected</i>
<b>Hampshire College</b> <i>Associate's in Liberal Arts</i>	Amherst, Massachusetts <i>Aug. 2011 – May 2015</i>

## EXPERIENCE

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<b>Graduate Research and Teaching Assistant</b> <i>University of Vermont</i>	Dec. 2018 – Present <i>Burlington, VT</i>
<ul style="list-style-type: none"><li>Within the capacity of my graduate assistantship I served as the lead instructor for Calculus, and Linear Algebra sections by delivering instruction, evaluation and technical support to students.</li></ul>	
<b>Applied Mathematics Researcher, Data Science</b> <i>Vermont Complex Systems Center</i>	Jun. 2020 – Present <i>Burlington, VT</i>
<ul style="list-style-type: none"><li>Designed pipelines for algorithmic solutions to software platforms for Twitter data analysis</li><li>Implemented time series algorithms and machine learning to identify signals in sociopolitical events in financial and Natural Language Programming settings</li></ul>	
<b>Research Specialist</b> <i>NOAA Sea Grant</i>	Sept. 2017 – Jan. 2018 <i>Burlington, VT</i>
<ul style="list-style-type: none"><li>Developed research pipelines with international, federal, state and private agencies on water quality research</li><li>Coordinated research and outreach programs for the Lake Champlain Sea Grant, Vermont Water Resources and Lake Studies Center, and the Northeastern States Research Cooperative.</li><li>Manged intern staff and maintain Lake Champlain Sea Grant outreach curriculum, and laboratory</li></ul>	
<b>Research Assistant for ATLAS, Large Hadron Collider, CERN</b> <i>University of Massachusetts</i>	Sept. 2015 – Dec. 2018 <i>Amherst, MA</i>
<ul style="list-style-type: none"><li>Assessed the discrimination power of various Beyond the Standard Model theories predicting the <math>Z'</math> boson. Used ROOT to analyze 13 TeV Monte Carlo simulations for the ATLAS collaboration.</li><li>Used ROOT to analyze 13 TeV Monte Carlo simulations for the ATLAS collaboration.</li></ul>	

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, Java, SQL, JavaScript, HTML/CSS, MS Suite, Matlab  
**Frameworks:** Jupyter, REST, WordPress, Jekyll  
**Libraries:** pandas, NumPy, Matplotlib  
**Selected Coursework:** Complex Network Analysis, Numerical Analysis, Chaos and Dynamical Systems

## AWARDS

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**UVM Deans Research Specialist Outreach Merrit Award** | *University of Vermont*, (2017, 2018)  
**Ingenuity Leadership Award** | *Hampshire College*, (May 2015)  
**Human Relations Award, National Conference for Community and Justice** | *NCCJ*, (May 2010)

## PUBLICATIONS

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**Tarren, A.**, D. Orfeo, and P. Dodds. American Election Signals on Twitter: Assessing characteristic discourse patterns on Twitter. *In Preparation.*

**Tarren, A.**, D. Orfeo, and P. Dodds. Anti-Vaccination Movement Signals on Twitter: Evaluating implementation of Time Series applications in NLP. *In Preparation.*

**Tarren, A.**, J.Yang. Algorithmic Techniques Evaluating Anti-Vaccination Sentiment. *In Preparation.*

**Vermont Complex Systems Center Story Lab:** American Election Discourse on Twitter. | (2020)

**Vermont Complex Systems Center Story Lab:** Multi-scale Perturbation Algorithms, Contagion. | (2020)

**Association for Experiential Education Regional Conference Workshop:** Working with White Participants in Outdoor Experiential Education | (2018)

**NOAA Sea Grant Institution Board of Directors:** Outreach and Research Initiatives: | (2017)

**Five College Research Colloquium** Riparian management in the Connecticut River Valley, MA | (2011)

**National Conference for Community and Justice** *Keynote award recipient* | (2010)