Ayme Tomson

Website: aymetomson.com
Email: atomson@ucmerced.edu
LinkedIn: aymetomson
GitHub: github.com/atomson

Education

University of California, Merced — Merced, CA
Ph.D. in Cognitive and Information Sciences (expected Spring, 2021) — 2016–Current

University of California, Merced — Merced, CA
M.S. in Cognitive and Information Sciences — 2016–2020

University of California, Santa Barbara — Santa Barbara, CA
Graduate Studies in Computer Science — 2014–2016

University of New Mexico — Albuquerque, NM
B.S. in Applied Mathematics, Graduated with high honors — 2010–2014

- Dual Minors: Linguistics and Computer Science

Professional Experience

Remote Natural Language Processing Collaborator — Livermore, CA
Lawrence Livermore National Laboratory (LLNL) — October 2020–Current

- Interdisciplinary data science and machine learning team for a materials project
- Designed and implemented a linguistic-based annotation process for improved automated sentence annotation.

Data Science Summer Institute (DSSI), Intern — Livermore, CA
Lawrence Livermore National Laboratory — Summer 2020

- Involved in: a DSSI team project, an individual NLP project and also collaborated as part of an existing LLNL project
- Led data analytics for an interdisciplinary team working on a machine learning nano-materials problem. Created a custom quantity data set and trained and tested a machine learning model on quantity identification and resolution for individual project. Created a high-quality mechanism to annotate numerical values for data extraction to define rules for several property annotations for an existing LLNL project.

LLNL & UC Merced Data Science Challenge, Team Lead — Livermore, CA
Lawrence Livermore National Laboratory — May 26–31, 2019

- Led an interdisciplinary undergraduate student team working on machine learning approach to personalized medicine (cancer treatment). Assisted in logistical aspects of workshop for team. Provided intermediate knowledge between project mentor and team. Taught skills, monitored progress and encouraged project development.

NSF Training Grant - Intelligent Adaptive Systems (IAS), Trainee — Merced, CA
University of California, Merced — Spring 2017–Current

- When the Supreme Court Changes Its Mind: A Look at Cultural Semantic Trends
- Created a custom data set containing data pertaining to explicit overturns within the Supreme Court. Created a complementary "social context" data set from the Google n-gram corpus using keywords taken from the custom data set. This interdisciplinary project looked at small-scale temporal changes in human communication to predict large-scale changes made by the United States Supreme Court.

Graduate Student Reseacher, UCSB Media Neuroscience Lab Santa Barbara, CA
University of California, Santa Barbara October 2015–March 2016

- Automated Analysis of Moral Content in Online Communication Sources
- Performed data mining, data scraping, and cleaning. Performed data analysis using word embeddings of textual data and natural language processing methods of distance comparison.

Integrative Graduate Education and Research Traineeship, Trainee Santa Barbara, CA
University of California, Santa Barbara 2014–2016

- Winter 2016: An Empirical Analysis of Sexual Networks and Pregnancy in Ghana
- Fall 2015: Modeling Rhetoric of National Security Strategies
- Spring 2015: Analyzing the Connectome of C. elegans

Summer Research Experience for Undergraduates (REU), Intern Milwaukee, WI
Marquette University Summer 2013

- Data Assimilation for Fluid Dynamic Models: Finding Flow Paths of an Object Through Water
- Researched data assimilation, fluid dynamic models, filtering methods and flow behavior from a dynamical systems perspective. Implemented and evaluated numerical methods to solve differential equations modeling fluid flows and implement filtering methods to explore function space sampling.

Technical Skills

- **Programming Languages**
  - Proficient in: R, Python, LaTeX, OpenSesame, Microsoft Office
  - Experience with project development in: Java, Matlab, SQL, C, C++
- **General Business Skills**
  - Project management, general software design, peer building and mentorship

Publications

[1] **A. Tomson** and T. Matlock, "A 1,000 percent worthwhile analysis of numeric hyperbole", presented at the The 14th International Cognitive Linguistics Conference (Tartu, Estonia, Jun. 10–14, 2017).

[2] **A. Tomson**, S. Sindi, and T. Matlock, "Understanding percent cognition via a dynamic systems framework", presented at the The 29th Annual International Society for Chaos Theory in Psychological & Life Sciences Conference (Orange, CA, Aug. 1–3, 2019).

[3] R. Sharma, **A. Tomson**, E. Lobato, M. Kallmann, and L. Padilla, "Data Driven Multi-Hazard Risk Visualization", in *EuroVis 2020 - Posters*, J. Byška and S. Jänicke, Eds., The Eurographics Association, 2020, ISBN: 978-3-03868-105-2.

Manuscripts in Progress

1. **A. Tomson**, T. Matlock, and M. Spivey, "A Rational Magnitude Comparison Task with Computer Mouse Tracking", *Journal to be determined*
2. **A. Tomson**, T. Matlock, and P. Lichtenstein, "A Conceptual Blending Approach to Understanding the Percent Conceptual Breakdown", *Journal to be determined*
3. **A. Tomson**, T. Matlock, and M. Spivey, "Using Transformers to Model Percent Context in the Wild", *Journal to be determined*

Invited Talks

1. **A. Tomson**, and T. Matlock, "Numerical Hyperbole in Everyday Language", *First UCSB-UC Merced Workshop on Dynamics of Language (UC Santa Barbara), February 10, 2017*

Teaching

Teaching Assistant at the University of California, Merced — Spring 2021
Slurs and Stereotypes (COGS-180)

Teaching Fellow at the University of California, Merced — Spring 2020
Judgment and Decision Making (COGS-170)

Teaching Assistant at the University of California, Merced — Fall 2020
Embodied Mind and Language (COGS-180)

Teaching Assistant at the University of California, Merced — Fall 2019, 2018, 2016
Introduction to Cognitive Science (COGS-01)

Teaching Assistant at the University of California, Merced — Fall 2017
Introduction to Language and Linguistics (COGS-05)

Mentoring

Research Assistant Coordinator at the UCM, Spivey Lab — Fall 2019–Spring 2020
Undergraduate students: Esther Lapite, Bruce Duong, Arianna Almanza, Eduardo Diaz, Liza Oh, Casandra Moua

Research Assistant Coordinator at the UCM, Spivey Lab — Spring 2019
Undergraduate students: Esther Lapite, Bruce Duong, Jorge Beltran, Mya Hurtado, Jocelyn Valdez

W-STEM at the UCM — Fall 2018–Spring 2019
Undergraduate student: Yuliana Agustin

Research Assistant Coordinator at UCM, Interactive Cognition Lab — Fall 2017–Spring 2018
Undergraduate students: Chiara Ty, Cynthia Vasquez, Jocelyn Valdez

Research Assistant Coordinator at the UCM, Interactive Cognition Lab — Spring 2017
Undergraduate students: Emily Wang, Chiara Ty, Cynthia Vasquez

Service

- Graduate President, W-STEM, UC Merced, Fall 2019–Fall 2020
- Founder and Co-Chair, Cognitive and Information Sciences Graduate Student Group, UC Merced, Spring 2019–Sprint 2020
- Founder and Co-Organizer, Cognitive and Information Sciences Weekly Women's Tea, Spring 2019–Spring 2020
- Graduate Student Panel, Psi Chi and Psychology Club, UC Merced, October 18, 2019
- Graduate Student General Member: Chancellor's Advisory Committee on the Status of Women (CACSW) UC Merced, Fall 2018–Fall 2019
- Workshop Co-Organizer, "Mental Simulation Workshop", UC Merced, October 2018
- Graduate Student Association Representative: UCSB Computer Science Department, 2015–2016

Memberships

- W-STEM, UC Merced, 2016–Current
- International Cognitive Linguistics Association, 2016–2017
- Cognitive Science Society, 2016–Current
- Society for Chaos Theory in Psychological & Life Sciences (SCTPLS), 2019–Current