GRACE OLIVE LAWLEY

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EDUCATION

Oregon Health & Science University Portland, OR
PhD, Computer Science & Engineering *Expected Mar 2024*

- Successfully defended 12/13/2023; official degree expected by end of Winter term, 3/22/2024.
- Dissertation Title: "Computationally Characterizing Communicative Context and Content in Autistic Children"
- Relevant Coursework: Machine Learning, Artificial Intelligence, Analysis and Design of Algorithms, Natural Language Processing, Principles and Practice of Data Visualization, Analyzing Sequences, Research Ethics for CS & EE.

Lewis & Clark College Portland, OR
BA, Mathematics *Sep 2014 - May 2017*

- Relevant Coursework: Probability and Statistics I & II, Discrete Mathematics, Linear Algebra, Number Theory.

TECHNICAL SKILLS

- Python, R, Git, GitHub, Jira
- Data Analysis, Data Visualization
- Statistics, Statistical Modeling
- Computational Linguistics, Natural Language Processing

WORK EXPERIENCE

Posit Remote
Data Science Mentor *Aug 2022 – Present*

- Mentor small groups of working professionals as they develop and hone their data science skills in either R or Python.
- Actively contribute to the improvement of course materials and coordinate with the development team.
- Participate in meetings with customer contacts to ensure Academy engagements are productive and successful.
- Worked with the Posit Academy Python team to translate and adapt course material from R into Python. Assisted in the development of Python specific course material. Collaborated with team members using Git/GitHub, Slack, and Jira.

Oregon Health & Science University Portland, OR
Graduate Research Assistant *Sep 2017 - Jan 2024*

- Conducted NIH funded research on Autism Spectrum Disorder, Fragile X Syndrome and Down Syndrome (Grant No. R01DC012033: Automated Measurement of Language Outcomes for Neurodevelopmental Disorders).
- Independently developed computational and statistical methods to analyze different aspects of the language of children with Autism Spectrum Disorder. Specific statistical and machine learning methods included mixed-effects logistic regression models, topic models, and both parametric and non-parametric statistical tests.
- Developed robust data management and visualization pipelines in R and Python for clinical data, including natural language transcripts and audio files.
- Designed, led, and collaborated on publications that appeared in peer-reviewed journals and conference proceedings, including three as first author.

RStudio Remote
Summer Intern *Jun 2019 - Sep 2019*

- Worked with Alison Hill to create an updated bookdown version of Jenny Bryan's STAT 545, a data science course originally taught at the University of British Columbia.
- Assisted in curating over 40 chapters of content on a wide range of topics, from reading data into R to creating an R package.
- Course materials are now available as an online textbook and are available for free for both self-guided learners and educators.

Oregon Health & Science University Portland, OR
Research Intern *Jun 2016 - Aug 2016; Jan 2017 - Jun 2017*

- Participated in Autism Spectrum Disorder research under the supervision of Jan van Santen, PhD.
- Analyzed transcribed interviews with children with Autism Spectrum Disorder using R and developed an automated method to detect and quantify atypical word usage using natural language processing techniques.

TEACHING EXPERIENCE

RStudio   San Francisco, CA
Workshop Teaching Assistant   *Jan 2020*
- 'Applied Machine Learning' workshop at rstudio::conf(2020).
- Two-day, 180-person workshop on how to build, tune, visualize, and assess various predictive models in R.

RStudio   Austin, TX
Workshop Teaching Assistant   *Jan 2019*
- 'What They Forgot to Teach You About R' workshop at rstudio::conf(2019).
- Two-day workshop on project-orientated workflows, version control, debugging, and iterating with the purrr package.

Oregon Health & Science University   Portland, OR
Graduate Teaching Assistant   *Jun 2018 - Sep 2018*
- 'Introduction to Biostatistics for the Basic Sciences' (CONJ 620) graduate course.
- Course involved data wrangling, statistical analysis, and visualization of biomedical data using R.
- Held weekly office hours, graded homework projects, and provided feedback to students.

PUBLICATIONS

JOURNAL ARTICLES

1. H. MacFarlane, A. C. Salem, S. Bedrick, J. K. Dolata, J. Wiedrick, **G. O. Lawley**, L. H. Finestack, S. T. Kover, A. J. Thurman, L. Abbeduto and E. Fombonne, 'Consistency and reliability of automated language measures across expressive language samples in autism', Autism Research, pp. 1–15, 2023. doi: 10.1002/aur.2897.
2. **G. O. Lawley**, S. Bedrick, H. MacFarlane, J. K. Dolata, A. C. Salem and E. J. Fombonne, '"Um" and "Uh" Usage Patterns in Children with Autism: Associations with Measures of Structural and Pragmatic Language Ability', Journal of Autism and Developmental Disorders, vol. 53, pp. 2986–2997, 8 2022. doi: 10.1007/s10803-022-05565-4.
3. A. C. Salem, H. MacFarlane, J. R. Adams, **G. O. Lawley**, J. K. Dolata, S. Bedrick and E. J. Fombonne, 'Evaluating atypical language in autism using automated language measures', Scientific Reports, vol. 11, no. 1, 2021. doi: 10.1038/s41598-021-90304-5.

OTHER PEER-REVIEWED PUBLICATIONS

4. **G. O. Lawley**, P. A. Heeman, J. K. Dolata, E. Fombonne and S. Bedrick, 'A Statistical Approach for Quantifying Group Difference in Topic Distributions Using Clinical Discourse Samples', in 24th Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL), Prague, Czechia, Sep. 2023. doi: 10.18653/v1/2023.sigdial-1.5.
5. **G. O. Lawley**, P. A. Heeman and S. Bedrick, 'Computational Analysis of Backchannel Usage and Overlap Length in Autistic Children', in 24th Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL), Workshop on Connecting Multiple Disciplines to AI Techniques in Interaction-centric Autism Research and Diagnosis (ICARD), Prague, Czechia, Sep. 2023.

BOOK CHAPTERS

6. H. MacFarlane, A. C. Salem, **G. O. Lawley**, A. P. Hill, K. Zuckerman and E. J. Fombonne, 'Epidemiology'. In: Textbook of Autism Spectrum Disorders, 2nd, E. Hollander, R. J. Hagerman and C. J. Ferretti, Eds. American Psychiatric Association Publishing, 2022, ch. 1, pp. 5–33.

CONFERENCE ABSTRACTS

7. **G. O. Lawley**, S. Bedrick and E. Fombonne, 'Sex Differences in Pronoun and Maze Usage in the Language of Children with Autism Spectrum Disorder', in International Society for Autism Research Annual Meeting (INSAR), May 2022.
8. **G. O. Lawley**, S. Bedrick, J. K. Dolata and E. J. Fombonne, 'Investigation on Examiner "Um" and "Uh" Usage in ADOS-2 Sessions', in International Society for Autism Research Annual Meeting (INSAR), May 2021.
9. A. C. Salem, H. MacFarlane, J. Adams, **G. O. Lawley**, J. K. Dolata, S. Bedrick and E. J. Fombonne, 'Evaluating Atypical Language in Autism Using Automated Discourse Measures', in International Society for Autism Research Annual Meeting (INSAR), May 2021.
10. A. C. Salem, H. MacFarlane, J. K. Dolata, **G. O. Lawley** and E. J. Fombonne, 'Using MLU to Evaluate the Reliability of ADOS Transcription', in International Society for Autism Research Annual Meeting (INSAR), Jun. 2020.

ADDITIONAL

Certifications & Training: RStudio Certified Instructor – Tidyverse (2019)
Awards: Promising Scholar Award, Oregon Health & Science University (2017); Miller Internship Award, Lewis & Clark College (2016)