

[Brian A. Hur](#)
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Education:

PhD, Natural Language Processing and Veterinary Epidemiology, 12/2022, University of Melbourne, Australia

Doctor of Veterinary Medicine, 5/2011, Washington State University College of Veterinary Medicine, Pullman, WA

Bachelor of Science (Veterinary Science), 12/2008, Washington State University, Pullman, WA

Published Works:

Hur, Brian A., Laura Y. Hardefeldt, Karin M. Verspoor, Timothy Baldwin, and James R. Gilkerson. "Using Natural Language Processing and Patient Journey Clustering for Temporal Phenotyping of Antimicrobial Therapies for Cat Bite Abscesses." (under consideration)

Hur, Brian, Laura Y. Hardefeldt, Karin M. Verspoor, Timothy Baldwin, and James R. Gilkerson. "Evaluating the Dose, Indication and Agreement with Guidelines of Antimicrobial Use in Companion Animal Practice with Natural Language Processing." *JAC-Antimicrobial Resistance*, Volume 4, Issue 1, February 2022

L. Y. Hardefeldt, B. Hur, S. Richards, R. Scarborough, G. F. Browning, H. Billman-Jacobe, J. R. Gilkerson, J. Ierardo, M. Awad, R. Chay, K. E. Bailey, Antimicrobial stewardship in companion animal practice: an implementation trial in 135 general practice veterinary clinics, *JAC-Antimicrobial Resistance*, Volume 4, Issue 1, February 2022

Hur, B., Hardefeldt, LY., Verspoor, K., Baldwin, T. and Gilkerson, JR., Overcoming challenges in extracting prescribing habits from veterinary clinics using big data and deep learning. *Aust Vet J.* 2022; 100: 220– 222.

Hur, Brian, Timothy Baldwin, Karin Verspoor, Laura Hardefeldt and James Gilkerson (2020) Domain Adaptation and Instance Selection for Disease Syndrome Classification over Veterinary Clinical Notes, *Proceedings of the 19th SIGBioMed Workshop on Biomedical Language Processing (BioNLP 2020)*, pp. 156—166.

Hur, Brian A., Laura Y. Hardefeldt, Karin M. Verspoor, Timothy Baldwin, and James R Gilkerson (2020) Describing the Antimicrobial Usage Patterns of Companion Animal Veterinary Practices; Free Text Analysis of more than 4.4 Million Consultation Records, *PLoS ONE* 15(3): e0230049.

Hur, B., L. Y. Hardefeldt, K. Verspoor, T. Baldwin, and J. R. Gilkerson. "Using Natural Language Processing and VetCompass to Understand Antimicrobial Usage Patterns in Australia." *Australian Veterinary Journal* 97, no. 8 (2019): 298–300.

Wang, Yuxia, Brian Hur, Karin Verspoor and Timothy Baldwin (2021) A Multi-Pass Sieve for Clinical Concept Normalization, *Traitement Automatique des Langues 2020*, Volume 61 Numéro 2.

LY Hardefeldt, BA Hur, K Verspoor, T Baldwin, KE Bailey, R Scarborough, S Richards, H Bilman-Jacobe, GF Browning and JR Gilkerson (2020) Use of cefovecin in dogs and cats attending first-opinion veterinary practices in Australia, *Veterinary Record*, 2020 Nov 28;187(11):e95.

Conference Activity:

Speaker:

Advanced methodologies being evaluated for veterinary NLP

HealTAC 2022: the 5th Healthcare Text Analytics Conference, June 2022

Overcoming challenges in extracting prescribing habits from veterinary clinics using big data and deep learning.

Australian Veterinary Antimicrobial Stewardship Conference - **NSW Department of Primary Industries Award**

Use of machine learning to support meaningful passive data extraction in community veterinary practices

World Antimicrobial Awareness Week NCAS Webinar, November 2020

Using AI to Explore What Drugs are Being Given and Why Out of Clinical Records

Association for Veterinary Informatics Talbot Symposium, August 2020

Domain Adaptation and Instance Selection for Disease Syndrome Classification over Veterinary Clinical Notes

BioNLP Workshop @ Association for Computational Linguistics, Seattle, Washington, USA, July 2020

State of the art diagnostic approaches in veterinary medicine – Better use of data to drive decisions

Australian National Antimicrobial Resistance Forum, University of Queensland, Brisbane, Australia, November 2019

Using Natural Language Processing and VetCompass to Understand Antimicrobial Usage Patterns in Australia

Talbot Symposium for Veterinary Informatics @ Fetch360, Kansas City, Missouri, USA, August 2019

Australian New Zealand Veterinary College Science Week, Gold Coast, Queensland, Australia, July 2019

Australian Veterinary Antimicrobial Stewardship Conference, Gold Coast, Queensland, Australia, November 2018

Natural Language Processing of Veterinary Patient Discharge Summaries

American Veterinary Medical Association Conference, San Diego, California, USA, July 2012

Poster Presentations:

Contrasting n-gram matching and ClinicalBERT to enhance medical concept normalization

OHNLP Workshop @ Association for Medical Informatics Association, Washington DC, USA, November 2019

Using Natural Language Processing and VetCompass to Understand Antimicrobial Usage Patterns in Australia

Computing Information Systems Doctoral Colloquium, Melbourne, Australia, USA, September 2019 – **Best Lightning Talk Award**

Australian Veterinary Association Conference, Brisbane, Queensland, Australia, May 2019 - **Silver Poster Award**

Professional Experiences:

Datatroph, LLC, Consultant, 2005 to present:

Provide leadership, guidance and consultancy services requiring Clinical NLP/AI, IT, data and research expertise.

Key Projects:

University of Sydney, Sydney, Australia

Data consultant for VetCompass Australia in which I perform data engineering and implementation of ML/NLP models created through our research to the dataset between hundreds of clinics across the country to provide useful data for researchers.

Microsoft, Redmond, Washington

Technical Project Manager in the redesign of XBOX Live's Single Sign On identity management infrastructure using federated services to allow site content to be more securely modified by vendors across the world.

Boeing, Everett, Washington

Systems Analyst in scaling the capability of the Velocity application used for the automation of parts delivery for the 787 projects.

Hasbro, Bellevue, Washington

Operations Engineer in the implementation of an identity management solution to allow users to sign onto a single site and be securely authenticated for multiple applications, online games, and purchases for Hasbro technologies.

Premera, Seattle, Washington

Technical Project Manager in Migration of over 100 internal applications to virtual servers while ensuring application architecture still maintained HIPAA compliance.

PhD Candidate, University of Melbourne, VIC, March 2018 to September 2022

Thesis Title: Using Natural Language Processing and Machine Learning to Understand Antimicrobial Usage Patterns in Australia.

Supervisors: Prof. Timothy Baldwin, Prof. James Gilkerson, Prof. Karin Verspoor, and Dr. Laura Hardefeldt

Teaching Experience: Text and Web Analytics (Autumn, 2019) and Foundations of Computing (Summer, 2019)

Lead Data Scientist, Covetrus, February 2022 to September 2022

Applied and developed NLP tools and methodologies to extract and analyze clinical data from billions of clinical records from thousands of veterinary clinics around the globe.

Love That Pet Group, Chief Information Officer, Sydney, New South Wales, Australia, 2016 to 2017

Built and led a team to develop and maintain the technology for a portfolio of pet technology veterinary services including an integrated solution for 5 veterinary hospitals, an online community with over 500k monthly visitors and an ecommerce platform.

VetPronto (YC W15), Cofounder, San Francisco, California, USA, 2014 to 2015

Created and ran an on-demand home veterinary care service with mobile apps for medical records and appointment booking for veterinary care delivered to the customers. Participated in YCombinator Winter 2015 Batch.

Animal Emergency Hospital of Redmond, Emergency Veterinarian, Redmond, Washington, USA, 2011 to 2013

Handled veterinary surgical and medical emergencies including the performance of any necessary diagnostics and treatments.

Dachser GmbH, Kempten, Senior Systems Engineer, Germany, 2002 to 2004

Developed a custom Single Sign On (SSO) application to synchronize their Microsoft accounts with various custom applications and implemented a custom mapping and GPS solution to track their vehicles.

Microsoft (Compaq), Systems Analyst, Redmond, Washington, USA, 1999 to 2001

As part of the Data Center Operations (DCOPs) Software Team, I provided Tier 3 support for Microsoft's web and internal infrastructure (the largest in the world at the time) and worked with their developers on the debugging of Windows Server during the launch of Active Directory within Microsoft.

Associations:

Association for Computational Linguistics
American Medical Informatics Association
Association of Veterinary Informatics

Volunteer Activity:

BioNLP Program Committee – 2021 to present
Association for Veterinary Informatics Education Committee – 2019 to present
Natural Language Processing Reading Group and Seminar Chair, University of Melbourne, 2018 to 2020

Cairns Turtle Rehabilitation Centre, Veterinarian, Cairns, Queensland, 2015 to 2016

Applied Clinical Informatics Journal Reviewer - 2012 to present

Woodland Park Zoo, Volunteer Veterinarian, Seattle, Washington 2011 to 2012