

Brian A. Hur
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Education:

PhD Candidate, Natural Language Processing and Veterinary Epidemiology, Expected 9/2021 – University of Melbourne, Australia

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

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

Published Papers:

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.

Hardefeldt, Laura Y, Brian Hur, Karin Verspoor, Timothy Baldwin, Kirsten E Bailey, Riata Scarborough, Suzanna Richards, Helen Biman-Jacobe, Glenn F Browning and James R 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:

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

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**

Technical Proficiencies:

Python	Data Analysis	Google Cloud/AWS/Azure
Tensorflow / Pytorch	Statistics	SQL / NoSQL
Web Search / Text Analytics	Tableau	Medical Ontologies

Professional Experiences:

PhD Candidate, University of Melbourne, VIC, March 2018 to present

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)

IT Consultant, 2005 to present:

Provide IT consulting services on a variety of projects from clients ranging from small businesses to Fortune 500 companies while obtaining a veterinary degree, launching early stage start-ups and performing my PhD candidacy.

Key Projects:

University of Sydney, Sydney, Australia (current)

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.

Premiera, Seattle, Washington

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

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 to create the largest home veterinary service provider. Participated in YCombinator Winter 2015 Batch and raised over \$1.2 Million in funding.

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

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

Dachser GmbH, Kempten, Systems Engineer, Germany, 2002 to 2003

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.

Compaq/Microsoft, Redmond, Washington, USA, 1999 to 2001

Implemented, and supported Microsoft's web infrastructure (the largest in the world at the time) and assisted with debugging of the Lightweight Directory Access Protocol (LDAP) for deployment of the first global Active Directory network within Microsoft.

Associations:

Association for Computational Linguistics
Association of Veterinary Informatics

Volunteer:

Natural Language Processing Reading Group and Seminar Chair, University of Melbourne, 2018 to present
Cairns Turtle Rehabilitation Centre, Veterinarian, Cairns, Queensland, 2015 to 2016
Woodland Park Zoo, Volunteer Veterinarian, Seattle, Washington 2011 to 2012