Anderson de Andrade

INTERESTS

Learned compression, information theory, learning theory, multimodal and multitask learning

EDUCATION

- Simon Fraser University • Ph.D. in Engineering Science • since 2021
  Dissertation title: *Learned transform coding: theory and applications*
  Advisor: Professor Ivan V. Bajić
- University of Toronto • M.Sc. in Applied Computing • 2015
- Universidad Tecnológica del Centro • B.Eng. in Networks and Communications • 2007

EMPLOYMENT

- Simon Fraser University • Research Assistant • Burnaby, Canada • since 2021
  Researched information theory, learning theory, methods in representation learning and optimization
- Wattpad • Senior Data Scientist • Toronto, Canada • 2019–2021
  Researched deep learning methods to learn latent representations of long-form text
- Wattpad • Data Scientist • Toronto, Canada • 2017–2019
  Researched active learning and reinforcement learning methods to improve content discovery
- VerticalScope • Research Engineer • Toronto, Canada • 2015–2017
  Developed algorithms to predict the performance of hundreds of social networks
- Terapeak • Data Scientist • Toronto, Canada • 2015
  Developed information theory algorithms to learn ontologies from product descriptions
- BlackBerry • Research Intern • Ottawa, Canada • 2014
  Researched temporal generative models for intrusion detection and multi-factor authentication
- TDA • Software Engineer • Caracas, Venezuela • 2009–2010
  Developed two data collection and statistical analysis platforms
- Web Lab • Software Engineer, Co–Founder • Valencia, Venezuela • 2004–2013
  Solved problems in content management, e-learning, human resources, messaging, and e-commerce

AWARDS

- NSERC Canada Graduate Scholarship – Doctoral • 2023
- Simon Fraser University Graduate Dean's Entrance Scholarship • 2021
- Mitacs Accelerate Fellowship • 2014

ARTICLES

10. Lossy common information in a learnable Gray-Wyner Network* (with A. Harell & I.V. Bajić)
ICLR • 2026

9. Rate-distortion theory in coding for machines and its applications (with A. Harell, Y. Foroutan, N. Ahuja, P. Datta, B. Kanzariya, S. Somayazulu, O. Tickoo & I.V. Bajić)
TPAMI • 2025

8. Towards task-compatible compressible representations* (with I.V. Bajić)
ICME Workshop on Coding for Machines • 2024

7. Base layer efficiency in scalable human-machine coding (with Y. Foroutan, A. Harell & I.V. Bajić)
ICIP • 2023

6. Conditional and residual methods in scalable coding for humans and machines* (with A. Harell & I.V. Bajić)
ICME Workshop on Coding for Machines • 2023

5. Rate-distortion in image coding for machines (with A. Harell & I.V. Bajić)
PCS • 2022

4. An architecture for accelerated large-scale inference of transformer-based language models (with A. Ganiev, C. Chapin & C.C. Liu)
NAACL: Industry Papers • 2021

3. Exploring multilingual syntactic sentence representations (with C.C. Liu & O. Muhammad)
EMNLP Workshop on Noisy User-Generated Text • 2019

2. DENS: A dataset for multi-class emotion analysis (with C.C. Liu & O. Muhammad)
EMNLP • 2019

1. Unsupervised aspect extraction from free-form conversations (with E.S.A. Lee, R.W. Zi, A. Fazly & B. Seibel)
SIGKDD Workshop on Issues of Sentiment Discovery and Opinion Mining • 2017

PREPRINTS

- Rate-Distortion Optimization for Transformer Inference* (with Alon Harell & I.V. Bajić)
- Graph representation learning network via adaptive sampling* (with C.C. Liu)
- Best practices for convolutional neural networks applied to object recognition in images*
- A comparison of neural network training methods for text classification*

TECHNICAL SKILLS

- High-performance scientific computing • Python, PyTorch, Numba, JAX
- Data engineering • Scala, Apache Spark, Apache Cassandra, Apache Kafka, Elasticsearch, SQL

– Backend development • Go, ZeroMQ, gRPC, Kubernetes

SERVICE

– NeurIPS • Reviewer • since 2025

– IEEE ICME • Reviewer • since 2023

– IEEE ICASSP • Reviewer • since 2023

– IEEE MMSP • Reviewer • since 2025

SOFTWARE

– Bayesian optimization

TALKS & PRESENTATIONS

– A machine learning research toolkit • Tutorial • Simon Fraser University • 2025

TEACHING EXPERIENCE

– Introduction to engineering analysis • Simon Fraser University • Teaching Assistant • 2025

MEMBERSHIPS

– Institute of Electrical and Electronics Engineers (IEEE) • since 2022