

Housam Babiker

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PROFILE SUMMARY

Recent PhD graduate in Computing Science from the University of Alberta. Published four top-tier conference papers (2 COLING, 1 ECML-PKDD, 1 EACL) out of my PhD project. Research interests include explainable AI, deep learning, reinforcement learning, and their applications to real-world problems.

EDUCATION

PhD in Computing Science

Sep. 2016 – Mar. 2023

University of Alberta

Edmonton, Canada

MSc in Information Technology

Nov. 2013 – Oct. 2015

Multimedia University

Melaka, Malaysia

BSc in Information Technology

Jun. 2007 – Jan. 2011

Multimedia University

Melaka, Malaysia

SELECTED PUBLICATIONS

6. **Housam Babiker**, Mi-Young Kim, Randy Goebel. Locally Distributed Activation Vectors for Guided Feature Attribution. In the 27 International Conference on Computational Linguistics (**COLING 2022**). Gyeongju, South Korea. (Acceptance rate: 33%).
5. **Housam Babiker**, Mi-Young Kim, Randy Goebel. Neural Networks with Feature Attribution and Contrastive Explanations. In the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD 2022**). Grenoble, France. (Acceptance rate: 26%).
4. **Housam Babiker**, Mi-Young Kim, and Randy Goebel. DISK-CSV: Distilling Interpretable Semantic Knowledge via Class Semantic Vector. In the 16th Conference of the European Chapter of the Association for Computational Linguistics (**EACL 2021**). Kyiv, Ukraine. (Acceptance rate: 24.7%).
3. **Housam Babiker**, Mi-Young Kim, and Randy Goebel. RANCC: Rationalizing Neural Networks via Concept Clustering. In the 28 International Conference on Computational Linguistics (**COLING 2020**). Barcelona, Spain. (Acceptance rate: 32.9%).
2. **Housam Babiker** and Randy Goebel. An Introduction to Deep Visual Explanation. In Neural Information Processing Systems (**NeurIPS-Workshop 2017**). Long Beach, USA.
1. **Housam Babiker**, Randy Goebel, and, Irene Cheng. Facial expression using SVM classifier on salient mic-macro patterns. In the International Conference on Image Processing (**ICIP 2017**). Beijing, China.

RELEVANT EXPERIENCE

Machine Learning Engineer

Nov. 2019 – Present

AltaML Inc.

Edmonton, Canada

- Developed NLP models for different domains (e.g., predictive models, semantic search, model in the loop, keyword extraction) and presented the findings to senior executive management.
- Developed a deep learning model to analyze legal cases by extracting facts, issues, analysis, and conclusions from legal documents. [Project link](#)
- Worked on models compression to improve the inference speed (e.g., quantization, TensorRT).

Graduate Research Assistant

Sep. 2016 – Mar. 2023

Department of Computing Science, University of Alberta

Edmonton, Canada

- Developed XAI techniques for deep learning at the XAI lab under the supervision of Prof. Randy Goebel.
- Worked on building models to explain an RL agent for autonomous driving (techniques used: computer vision and natural language processing).

TEACHING

Teaching Assistant

Fall 2018

Department of Computing Science, University of Alberta

Edmonton, Canada

- Prof. Joerg Sander and Sadaf Ahmed's teaching assistant (TA) for CMPUT 174: Intro. to the Found. of Computation I.

Teaching Assistant

Fall 2017

Department of Computing Science, University of Alberta

Edmonton, Canada

- Prof. Anup Basu's TA for CMPUT 414: Introduction to Multimedia Technology.

Teaching Assistant

Fall 2016

Department of Computing Science, University of Alberta

Edmonton, Canada

- Prof. Janelle Harms' TA for CMPUT 101: Introduction to Computing.

TECHNICAL SKILLS

Programming: Python (7 years), Matlab (3 years), C# (1 year), C++(1 year).

Deep Learning Frameworks: TensorFlow (5 years), Keras (3 years), PyTorch (1 year), OpenCV (1 year).

SELECTED HONORS & AWARDS

- **Mary Louise Imrie Graduate Student Travel Award**, University of Alberta, Canada, 2022.
- **Highest performance on task 4 of the COLIEE Competition**, Japan, 2018.
- **GSA Travel Award**, University of Alberta, Canada, 2017.
- **Champion of Infineon-MMU Technical Poster Session**, Multimedia University, Malaysia, 2014.
- **Champion of Infineon-MMU Technical Poster Session**, Multimedia University, Malaysia, 2013.
- **Best of the Best Award**, International Conference and Exposition on Innovation of Institution of Higher Learning, Kuala Lumpur, Malaysia, 2013.
- **Research Scholar Award**, Multimedia University, Malaysia, 2013.