

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 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.

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.