Emad A. Alghamdi

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Education

University of Melbourne, Australia   **2017 – 2021**

PhD in Computational Linguistics
Thesis: "Automated Video Difficulty Assessment"

I was awarded ***the Chancellor's prize*** for excellence in PhD thesis 2022

Co-supervised by Dr. Paul Gruba (Linguistics) and Dr. Eduardo Velloso (Computer Science)

Missouri State University, USA   **2012 – 2014**

M.S. in Educational Technology
GPA: 4/4

Missouri State University, USA   **2010 – 2013**

M.A. in English Linguistics
GPA: 3.97/4

Projects

Automatic Text Difficulty Adjustment   **2022–2023**

- An innovative web reading system that automatically adjusts reading difficulty

- The system uses advanced NLP methods, sensor technologies (eye-tracker and thermal camera)

- The project is a collaboration with expert researchers from ***Adobe Inc and Cambridge University***.

Arabic Font Optimization   **2022–2023**

- The project aims to develop an innovative approach to optimize Arabic font for better reading experience.

- The project is a collaboration with expert researchers from ***Google Font Team***.

Masader Plus   **2022–2023**

- Masader Plus is the first online catalogue for Arabic NLP datasets.

- This catalogue contains 500+ datasets with more than 25 metadata annotations for each dataset.

- Masader Plus can be found at `https://arbml.github.io/masader/`

Arabic Text Readability   **2022–2023**

- An open-sourced web app for assessing text readability for Saudi students in general education (K1-12)

- The system uses advanced NLP and machine learning methods (weak supervision)

- The project with NLP researchers from ***King Abdulaziz City for Science and Technology***.

Automated Video Analysis Software 2022-2023

○ A cross-platform desktop software for automated video analysis.

○ Uses advanced computer vision algorithms and methods for analyzing video contents.

○ The project is funded by **SAGE Publishing**.

CrowdyQ Plus 2023-2024

○ A virtual crowdsourcing platform for generating and evaluating test items.

○ The platform uses AI to generate exam questions.

KAUx, the first MOOC platform in Saudi Arabia 2013-2017

○ I proposed the development of KAUx and secured 500K SAR funding for the project.

○ I was the director for the project.

○ I supervised the development of 2 online training courses in the platform.

Scholarships, Awards, and Grants

The Chancellor's Prize for Excellence in PhD Thesis 2022

My PhD thesis was awarded the prestigious Chancellor's prize for excellence in PhD thesis in the University of Melbourne

SAGE Concept Grants 2022

My software AUVANA was awarded the SAGE Concept Grant £2,000.

KAU Excellence in Research Grant 2022

I received 35K SAR funding for the project "The Relative Contribution of Verbal Complexity to Second Language Video Lectures Difficulty Assessment".

KAU Excellence in Research Grant 2022

I received 35K SAR funding for the project "The Use of Lexical Complexity for Assessing Difficulty in Instructional Videos".

Research Excellence Award 2019

I was awarded Research Excellence Award by the Saudi Cultural Attaché in Australia.

PhD Scholarship 2017–2021

I received full scholarship from KAU to pursue my PhD research at the University of Melbourne.

Academic Excellence Award 2012-2013

I was awarded Academic Excellence Award by the Saudi Cultural Attaché in USA for excelling academically throughout the school year.

Certificate of Appreciation June 2019

I was awarded a Certificate of Appreciation by the Saudi Cultural Attaché in Washington, D.C for leadership as a president of the Saudi Club at Missouri State University.

Letter of Appreciation   **June 2019**

I was awarded by the Saudi Cultural Attaché in Washington, D.C for writing an article about volunteerism.

Experience

Director of the AI in Language Learning & Assessment Lab   **2022**

 http://www.ailla.tech

- I founded the AILLA Lab in January 2022.
- The lab has 6 active projects in collaboration with researchers and innovators from both academia (The University of Cambridge, Melbourne University, Monash University) and industry (Adobe, Google))

Head of Research Unit   **2022**

 English Language Institute, King Abdulaziz University

- I created five research interest groups on pressing topics related to language learning and assessment.
- I manage the groups' research projects.
- There are currently more than 40 PhD researchers.

Assistant Professor in Computational Linguistics   **2022**

King Abdulaziz University

Data Scientist Intern   **September 2020 – February 2021**

Melbourne Data Analytics Platform, University of Melbourne

- I worked on NLP projects using weak supervision techniques

Causal Instructor   **July 2019 – August 2019**

University of Melbourne

- I taught a Master-level course on Technology and Language Learning

Founder & CEO   **2015 – 2017**

Dropzin - On-demand Shipping & Delivery

- I founded the startup
- I administered day-to-day operations

Director of e-training Unit   **2014 – 2016**

King Abdulaziz University

- I founded KAUx an Arabic MOOC platform
- I led a team of faculty members, administrators, and on-site and remote technicians
- I oversaw the development of two MOOCs on innovation and critical thinking

Head of Distance Learning Unit   **2013 – 2016**

King Abdulaziz University

- I administered online English programs (7K+ Students) and 40+ instructors
- I trained faculty members on using several education technologies

Lecturer   **2008-2010 − 2013-2016**

King Abdulaziz University

○ I taught English courses for university students

Personal Development

Machine Learning with TensorFlow on Google Cloud Platform   **2018**

Coursera-A 5-course specialization by Google Cloud

○ Introduction to TensorFlow

○ How Google does Machine Learning

○ Feature Engineering

○ Launching into Machine Learning

○ Art and Science of Machine Learning

International License for Entrepreneurship   **2016**

75-hour Training Course, Jeddah, Saudi Arabia

Design and Development of Educational Technology, MIT   **2014**

edX

Entrepreneurship 101: Who is your customer?, MIT   **2014**

edX

Statistics: Making Sense of Data, University of Toronto   **2014**

Coursera

Competitive Strategy, Ludwig-Maximilian University of Munich   **2013**

Coursera

Justice, Harvard   **2013**

edX

Inspiring Leadership through Emotional Intelligence, Case Western Reserve University **2013**

Coursera

Internet History, Technology,& Security, University of Michigan   **2012**

Coursera

Publication

Book Chapters:

○ Nawaz, Sadia, **Alghamdi, Emad A**, et. al (2022). Understanding the role of AI and learning analytics techniques in addressing task difficulties in STEM education. In: Artificial Intelligence in STEM Education: The Paradigmatic Shifts in Research, Education,and Technology.

- **Alghamdi, Emad A** (2018). Effects of Using Multimodal Glosses in Video Games to Enhance Incidental Vocabulary Learning and Retention. In: Handbook of Research on Integrating Technology Into Contemporary Language Learning and Teaching.Chap.2, pp.427–448

Journal Articles:

- **Alghamdi, Emad A** (In review). What makes video difficult for language learners?
- Matthews, J., Masrai, A., Lange, K., McLean, S., **Alghamdi, Emad A** , Kim, K., Shinhara, Y., Tada, S. (in review). Using meaning recall to explore links between aural lexical knowledge and L2 listening: A replication and extension study.
- **Alghamdi, Emad A** (2022). Book review: Computational psychometrics: new methodologies for a new generation of digital learning and assessment.
- **Alghamdi, Emad A**, Paul Gruba, and Eduardo Velloso (2022).The Relative Contribution of Verbal Complexity to Second Language Video Lectures Difficulty Assessment. The Modern Language Journal: 4/194 (Linguistics)
- **Alghamdi, Emad A**, Paul Gruba, Ahemd Mersi, et al. (2022). The Use of Lexical Complexity for Assessing Difficulty in Instructional Videos. Language Learning and Technology. 8/194 (linguistics).
- **Alghamdi, Emad A**, Eduardo Velloso, and Paul Gruba (2021). AUVANA: An Automated Video Analysis Tool for Visual Complexity. DOI: https://doi.org/10.31219/osf.io/kj9hx
- **Alghamdi, Emad A** and Sayyed Rashid Shah(2018). Exploring the Effects of Mobile-Based Audience Response System on EFL Students' Learning and Engagement in a Fully Synchronous Online Course. International Journal of English Linguistics 8.3, p.92. DOI:10.5539/ijel.v8n3p92
- **Alghamdi, Emad A** and Hussam Rajab(2016). Unmonitored students self-created WhatsApp groups in distance learning environments: A collaborative learning tool or cheating technique. International Journal of Research, 5.2,pp.71–82
- **Alghamdi, Emad A** (2016). Untangling Multimedia Effects on EFL Incidental Vocabulary Learning via Playing an Online Hidden-Object Game. International Journal of Computer-Assisted Language Learning and Teaching, 6.1, pp.24–39.ISSN:2155-7098
- **Alghamdi, Emad A** (2015). The Representation of Islam in Western Media: The Coverage of Norway Terrorist Attacks. International Journal of Applied Linguistics and English Literature, 4.3,pp.198–204.ISSN:22003592
- **Alghamdi, Emad A** (2014). Gulf Pidgin Arabic: A Descriptive and Statistical Analysis of Stability. International Journal of Linguistics, 6.6, p.110

Conference Proceedings:

- Yousef Altaher,Ali Fadel,Mazen Alotaibi,Mazen Alyazidi,Mishari Al-Mutairi,Mutlaq Aldhbuiub,Abdulrahman Mosaibah,Abdelrahman Rezk,Abdulrazzaq Alhendi,Mazen Abo Shal,**Alghamdi, Emad A** ,Maged S. Alshaibani,Jezia Zakraoui,Wafaa Mohammed,Kamel Gaanoun,Khalid N. Elmadani,Mustafa Ghaleb,Nouamane Tazi,Raed Alharbi,Maraim Masoud,Zaid Alyafeai (2022). Masader Plus: A New Interface for Exploring +500 Arabic NLP Datasets.
- **Alghamdi, Emad A**, Fahad Otaif ,and Paula Gruba (2018). Designing a video playing interface for second language learners. ASCILITE2018.November,pp.298–302
- **Alghamdi, Emad A** A.,N. R. Aljohani, et. al. (2015). CrowdyQ: A virtual crowdsourcing platform for question

items development in higher education. 17th International Conference on Information Integration and Web-Based Applications and Services, iiWAS2015-Proceedings

Talks:

- **Alghamdi, Emad A** (2019). Video diculty assessment. Presented at the Human-Computer Interaction Seminars. School of Computing and Information Systems, The University of Melbourne, Melbourne, Australia.
- **Alghamdi, Emad A** (2018). Video complexity and language learners: Making the match. The Third Saudi Scientic Symbolism, University of Sydney, Sydney, Australia.

COMMUNITIES

- The Readability Consortium
- American Association of Applied Linguistics
- ARBML (Arab Machine Learning)
- Human-Computer Interaction Group, the University of Melbourne
- Melbourne Data Analytics Platform

VOLUNTEER

Founding Director   **2015 – 2016**

Afaqi Learning Hubs

President of the Saudi Student Club   **2012-2013**

Missouri State University, MO, USA

English-Arabic Translator   **2012-2014**

TED

Journal Reviewer

Behavior Research Methods, Language Learning & Technology, Interactive Learning Environments, Sage Open

Skills

Natural Languages: Arabic (Native), English (Fluent)

Programming Languages: Python, R, JavaScript

Machine Learning, NLP, & CV: TensorFlow, Keras, Scikit-learn, spaCy, OpenCV, NLTK

Web and Desktop Technologies: HTML, CSS, AWS, Vue, Electron, Django, Flask. Streamlit

Statistics: RStudio, SPSS