

# Bilal Ghanem

POSTDOCTORAL RESEARCHER

Edmonton, Canada

☎ (+1) 587-338-6007 | ✉ bghanem(AT)ualberta(DOT)ca | 🏠 bilalghanem.github.io | 📷 bilalghanem | 🌐 bilalghanem

## Personal Information

**Full Name:** Bilal Hisham Hasan Ghanem.

**Nationality:** Jordanian.

**Place of birth:** Abu Dhabi – United Arab Emirates.

**Date of birth:** 14/06/1992.

## Education

### Universitat Politècnica de València - (UPV)

Valencia, Spain

PHD IN COMPUTER SCIENCE

Jan. 2018 - Dec. 2020

- Thesis Topic: On the Detection of False Information: From Rumors to Fake News.
- Supervisors: Paolo Rosso
- Cum laude

### Arab American University - (AAUP)

Jenin, Palestine

MASTER IN COMPUTER SCIENCE

Sept. 2014 - July 2017

- Thesis Topic: Hybrid Arabic Text Plagiarism Detection System.
- Supervisors: Labib Arafeh
- GPA 3.33/4.0

### Arab American University - (AAUP)

Jenin, Palestine

B.S. IN COMPUTER INFORMATION TECHNOLOGY

Sept. 2010 - Feb. 2014

- Final Project: Tejwal - It is a windows phone application that allows tourists to get information about archeological sites in Palestine by taking pictures of the places. The application provides textual and multimedia content to them.
- Supervisors: Moath Sabha
- GPA 3.14/4.0

## Work Experience

### University of Alberta

Edmonton, Canada

POSTDOCTORAL RESEARCHER

May 2021 - now

- Working on question generation for educational texts.

### Symanto

Valencia, Spain

RESEARCH SCIENTIST

April 2020 - Jan. 2021

- Creating NLP applications with focusing on psycholinguistic/psychology theories.

### Symanto

Nuremberg, Germany

RESEARCHER

Nov. 2019 - Jan. 2020

- During this internship, I was working on detecting banks loans' defaulters from an NLP perspective.

### Sorbonne Paris Nord University

Paris, France

VISITING RESEARCHER AT LIPN LAB

June 2019 - Sept. 2019

- During my research visit, I was working on detecting the online suspicious accounts, called trolls, from an emotional perspective.

### Al-Quds Open University

Ramallah, Palestine

DATA AUDITOR

Feb. 2016 - Nov. 2017

- Preparing detailed reports from registration data using SQL queries.
- Reporting issues/problems to the concerned registration department branch/es to address and resolve them.

### Al-Shams DS.

Jenin, Palestine

SOFTWARE DEVELOPER

Sep. 2014 - Feb. 2016

- Developing and updating a full system with a Web interface for customers that contains billing, HR, and Banking modules, with an advanced reporting component.
- Integrating new modules for selling drugs.

## Digital Dynamics

SOFTWARE DEVELOPER

Al-Sharjah, United Arab Emirates

Apr. 2014 - Sep. 2014

- Developing and updating windows applications using c#.net.
- Testing new models done by our team and planning for new ideas to be applied.
- Customer support with training users to use new or modified models.

## Awards

### INTERNATIONAL

- |      |   |                     |
|------|---|---------------------|
| 2020 | <b>Cum laude</b> , PhD thesis: On the Detection of False Information: from Rumors to Fake News. | Valencia, Spain     |
| 2019 | <b>First place</b> , CheckThat! shared task (verifying Arabic news) - Subtask D.                | Lugano, Switzerland |
| 2019 | <b>Third place</b> , International Cybersecurity Contest, fake news track.                      | Doha, Qatar         |
| 2019 | <b>Accepted research proposal</b> , EFL mobility grant.   | Paris, France       |
| 2018 | <b>First place</b> , AMI (Automatic Misogyny Identification) shared task - Subtask 2.           | Sevilla, Spain      |

## Talks

### University of Alberta

Edmonton, Canada

TALK ON "QUESTION GENERATION FOR READING COMPREHENSION SKILLS"

Sept. 2021

- In this talk, I presented an overview over previous question generation systems, what is in common and how they are different, and I showed our current proposed approach.

### University of Mannheim

Mannheim, Germany

TALK ON "FAKEFLOW: FAKE NEWS DETECTION BY MODELING THE FLOW OF AFFECTIVE INFORMATION"

May 2021

- In this talk, I presented our fake news detection model which utilizes the flow of affective information inside online new articles.

### Universitat Politècnica de València - (UPV)

Valencia, Spain

TUTORIAL ON "ON THE DETECTION OF FALSE INFORMATION: FROM RUMORS TO FAKE NEWS"

March 2020

- In this talk, I described the false information issue and how we approached it in our research group, with highlighting the role of affective information.

### HBKU University

Doha, Qatar

TUTORIAL ON "CREDIBILITY IN NEWS: FACT CHECKING AND FAKE NEWS DETECTION"

Oct. 2019

- In this tutorial, I introduced the issue of fake news and its credibility with showing examples from previous and current works, with presenting some possible future works.

## Academic Services

### Journals

KNOWLEDGE-BASED SYSTEMS, TOIT, TOIS, IP&M

### Conferences and Workshops

ACL (2019), EMNLP (2020), CLEF (2018, 2019, 2020), LREC (2020), ECIR (2020), PAN (2019, 2020)

### Program Committee Member

PAN (2020), SS AT DSAA (2020)

## Organizing Research Tasks

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|------|--|----------------|
| 2021 | <b>Shared Task at FIRE</b> , Arabic Misogyny Identification.                     | Virtual Event  |
| 2020 | <b>Shared Task at CLEF</b> , Profiling Fake News Spreaders on Twitter.           | Thess., Greece |
| 2019 | <b>Shared Task at FIRE</b> , Irony Detection in Arabic Tweets.                   | Kolkata, India |
| 2019 | <b>Shared Task at FIRE</b> , Author Profiling and Deception Detection in Arabic. | Kolkata, India |

## Technical Skills

### CERTIFICATES

- Certified by more than 18 courses in different disciplines (text mining, machine learning, deep learning, big data, Oracle OCA (PL/SQL) etc.). Details are available in my LinkedIn.

## CODING

- Excellent in object oriented programming using Python, very good in C#, and good in VB.net and Java.
- Excellent skills in machine learning frameworks as Scikit-learn as well Weka application.
- Excellent skills in Keras deep learning framework, very good skills in PyTorch, and additional some knowledge in other frameworks like TensorFlow.

## Publications

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### The Impact of Psycholinguistic Patterns in Discriminating between Fake News Spreaders and Fact Checkers

ANASTASIA GIACHANOU, **BILAL GHANEM**, ESTEBAN A RÍSSOLA, PAOLO ROSSO, FABIO CRESTANI, DANIEL OBERSKI

2022

- Data and Knowledge Engineering.

### ArMI at FIRE 2021: Overview of the First Shared Task on Arabic Misogyny Identification (in Press)

HALA MULKI, **BILAL GHANEM**

2021

- Working Notes of the Forum for Information Retrieval Evaluation (FIRE).

### Indications of Depressive Symptoms During the COVID-19 Pandemic in Germany: Comparison of National Survey and Twitter Data

CAROLINE COHRDES, SEREN YENIKENT, JIAWEN WU, **BILAL GHANEM**, MARC FRANCO-SALVADOR, FELICITAS VOGELGESANG

2021

- JMIR Mental Health.

### FakeFlow: Fake News Detection by Modeling the Flow of Affective Information

**BILAL GHANEM**, SIMONE PAOLO PONZETTO, PAOLO ROSSO, FRANCISCO RANGEL

2021

- The European Chapter of the Association for Computational Linguistics (EACL).

### On the Impact of Emotions on the Detection of False Information

PAOLO ROSSO, **BILAL GHANEM**, ANASTASIA GIACHANOU

2021

- International Symposium on Electrical, Electronics and Information Engineering.

### What Motivates You? Benchmarking Automatic Detection of Basic Needs from Short Posts

SANJA STAJNER, SEREN YENIKENT, **BILAL GHANEM**, MARC FRANCO-SALVADOR

2021

- The Association for Computational Linguistics (ACL).

### Let-Mi: An Arabic Levantine Twitter Dataset for Misogynistic Language

HALA MULKI, **BILAL GHANEM**

2021

- Proceedings of the Sixth Arabic Natural Language Processing Workshop (WANLP) at EACL.

### Detection of Conspiracy Propagators using Psycho-linguistic Characteristics

ANASTASIA GIACHANOU, **BILAL GHANEM**, PAOLO ROSSO

2021

- Journal of Information Science.

### TexTrolls: Identifying Trolls on Twitter with Textual and Affective Features

**BILAL GHANEM**, DAVIDE BUSCALDI, PAOLO ROSSO

2020

- Workshop on Online Misinformation- and Harm-Aware Recommender Systems, co-located with RecSys.

### FacTweet: Profiling Fake News Twitter Accounts

**BILAL GHANEM**, SIMONE PAOLO PONZETTO, PAOLO ROSSO

2020

- International Conference on Statistical Language and Speech Processing (SLSP).

### On the Impact of Emotions on the Detection of False Information

PAOLO ROSSO, **BILAL GHANEM**, ANASTASIA GIACHANOU

2020

- European Conference on Natural Language Processing and Information Retrieval (ECNLP/IR).

## Overview of PAN 2020: Authorship Verification, Celebrity Profiling, Profiling Fake News Spreaders on Twitter, and Style Change Detection

JANEK BEVENDORFF, **BILAL GHANEM**, ANASTASIA GIACHANOU, MIKE KESTEMONT, ENRIQUE MANJAVACAS, MARTIN POTTHAST, FRANCISCO RANGEL, PAOLO ROSSO

2020

- Conference and Labs of the Evaluation Forum (CLEF).

## Irony Detection in a Multilingual Context

**BILAL GHANEM**, JIHEN KAROUI, FARAH BENAMARA, PAOLO ROSSO, VÉRONIQUE MORICEAU

2020

- European Conference on Information Retrieval (ECIR).

## The Role of Personality and Linguistic Patterns in Discriminating between Fake News Spreaders and Fact Checkers (Best paper award)

ANASTASIA GIACHANOU, ESTEBAN A. RÍSSOLA, **BILAL GHANEM**, FABIO CRESTANI, PAOLO ROSSO

2020

- International Conference on Natural Language & Information Systems (NLDB).

## Shared Tasks on Authorship Analysis at PAN 2020

JANEK BEVENDORFF, **BILAL GHANEM**, ANASTASIA GIACHANOU, MIKE KESTEMONT, ENRIQUE MANJAVACAS, MARTIN POTTHAST, FRANCISCO RANGEL, PAOLO ROSSO

2020

- European Conference on Information Retrieval (ECIR).

## An Emotional Analysis of False Information in Social Media and News Articles

**BILAL GHANEM**, PAOLO ROSSO, FRANCISCO MANUEL RANGEL PARDO

2020

- ACM Transactions on Internet Technology (TOIT).

## IDAT@FIRE2019: Overview of the Track on Irony Detection in Arabic Tweets

**BILAL GHANEM**, JIHEN KAROUI, FARAH BENAMARA, VÉRONIQUE MORICEAU, PAOLO ROSSO

2019

- Working Notes of the Forum for Information Retrieval Evaluation (FIRE 2019).

## Overview of the Track on Author Profiling and Deception Detection in Arabic

FRANCISCO RANGEL, PAOLO ROSSO, ANIS CHARFI, WAJDI ZAGHOUBANI, **BILAL GHANEM**, JAVIER SÁNCHEZ-JUNQUERA

2019

- Working Notes of the Forum for Information Retrieval Evaluation (FIRE 2019).

## On the Author Profiling and Deception Detection in Arabic shared task at FIRE

FRANCISCO RANGEL, PAOLO ROSSO, ANIS CHARFI, WAJDI ZAGHOUBANI, **BILAL GHANEM**, JAVIER SÁNCHEZ-JUNQUERA

2019

- Proceedings of the 11th Forum for Information Retrieval Evaluation (FIRE 2019).

## UPV-28-UNITO at SemEval-2019 Task 7: Exploiting Post's Nesting and Syntax Information for Rumor Stance Classification

**BILAL GHANEM**, ALESSANDRA TERESA CIGNARELLA, CRISTINA BOSCO, PAOLO ROSSO, FRANCISCO MANUEL RANGEL PARDO

2019

- Proceedings of the 13th International Workshop on Semantic Evaluation.

## Bot and Gender Detection using Textual and Stylistic Information

ANASTASIA GIACHANOU, **BILAL GHANEM**

2019

- In Working Notes of CLEF 2019 - Conference and Labs of the Evaluation Forum, CLEF '19.

## UPV-UMA at CheckThat! Lab: Verifying Arabic Claims using a Cross Lingual Approach

**BILAL GHANEM**, GORAN GLAVAŠ, ANASTASIA GIACHANOU, SIMONE PAOLO PONZETTO, PAOLO ROSSO, FRANCISCO RANGEL

2019

- In Working Notes of CLEF 2019 - Conference and Labs of the Evaluation Forum, CLEF '19.

## Online Hate Speech against Women: Automatic Identification of Misogyny and Sexism on Twitter

SIMONA FREMDA, **BILAL GHANEM**, MANUEL MONTES-Y-GÓMEZ, PAOLO ROSSO

2019

- Journal of Intelligent & Fuzzy Systems.

## Stance Detection in Fake News A Combined Feature Representation

BILAL GHANEM, PAOLO ROSSO, FRANCISCO RANGEL

2018

- Proceedings of the First Workshop on Fact Extraction and VERification (FEVER).

## HYPLAG: Hybrid Arabic Text Plagiarism Detection System

BILAL GHANEM, LABIB ARAFEH, PAOLO ROSSO, FERNANDO SÁNCHEZ-VEGA

2018

- International Conference on Applications of Natural Language to Information Systems.

## LDR at SemEval-2018 Task 3: A Low Dimensional Text Representation for Irony Detection

BILAL GHANEM, FRANCISCO RANGEL, PAOLO ROSSO

2018

- Proceedings of The 12th International Workshop on Semantic Evaluation.

## UPV-INAOE-Check That: Preliminary Approach for Checking Worthiness of Claims

BILAL GHANEM, MANUEL MONTES-Y-GÓMEZ, FRANCISCO RANGEL, PAOLO ROSSO

2018

- In Working Notes of CLEF 2018 - Conference and Labs of the Evaluation Forum, CLEF '18.

## UPV-INAOE-Autoritas-Check That: An Approach based on External Sources to Detect Claims Credibility

BILAL GHANEM, MANUEL MONTES-Y-GÓMEZ, FRANCISCO RANGEL, PAOLO ROSSO

2018

- In Working Notes of CLEF 2018 - Conference and Labs of the Evaluation Forum, CLEF '18.

## Exploration of Misogyny in Spanish and English Tweets

SIMONA FREND, BILAL GHANEM, MANUEL MONTES-Y-GÓMEZ

2018

- Third Workshop on Evaluation of Human Language Technologies for Iberian Languages (IberEval 2018).

## Automatic Expansion of Lexicons for Multilingual Misogyny Detection

SIMONA FREND, BILAL GHANEM, ESTEFANÍA GUZMÁN-FALCÓN, MANUEL MONTES-Y-GÓMEZ, LUIS VILLASENOR-PINEDA

2018

- Proceedings of Sixth Evaluation Campaign of Natural Language Processing and Speech Tools for Italian.

## ARAP: Arabic Author Profiling Project for Cyber-Security

PAOLO ROSSO, FRANCISCO RANGEL, ANIS CHARFI, WAJDI ZAGHOUBANI, BILAL GHANEM, JAVIER SÁNCHEZ-JUNQUERA

2018

- Sociedad Española para el Procesamiento del Lenguaje Natural.

## Fact Checking: Detecting and Verifying Facts

BILAL GHANEM

2018

- Proceedings of the Third Workshop on Evaluation of Human Language Technologies for Iberian Languages.

## Full Publications

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