


# Eslam Hussein

 +1 (540) 999 1556

 [ehussein@vt.edu](mailto:ehussein@vt.edu)

 [www.eslam-hussein.me](http://www.eslam-hussein.me)

 [eahussein](https://www.linkedin.com/in/eahussein)

 [EslamAli86](https://github.com/EslamAli86)

 [citations?user=Gli2AZEAAAAJ](https://scholar.google.com/citations?user=Gli2AZEAAAAJ)

## Education

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| <b>Virginia Tech</b>    | PhD student - Computer Science - 2018 - Present  | 3.82 GPA |
| <b>Cairo University</b> | Master of Science in Computer Science - 2016<br>Bachelor of Science in Computer Science – 2007 | 3.68 GPA |

## Publications

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1. Achyut Ganti\*, **Eslam Hussein\***, Steve Wilson, Eva Zhao, Zexin Ma. Narrative Style and the Spread of Health Misinformation on Twitter. (\* **equal contribution**) [EMNLP'23 Findings]
2. **Eslam Hussein**, Hoda Eldardiry. Investigating Misinformation in Online Marketplaces: An Audit Study on Amazon. ([arXiv](#))
3. **Eslam Hussein**, Prerna Juneja, Tanushree Mitra. Measuring Misinformation in Video Search Platforms: An Audit Study on YouTube. CSCW 2020 [[paper](#)]
4. **Eslam Hussein**, Ahmed Ibrahim Hafez, Aboul Ella Hassanien, Aly A Fahmy. Nature-inspired algorithms for solving the community detection problem. Logic Journal of the IGPL: Oxford Journals, 2017 [[paper](#)]
5. **Eslam Hussein**, Abdurrahman Ghanem, Vinicius Vitor dos Santos Dias, Carlos HC Teixeira, Ghadeer AbuOda, Marco Serafini, Georgos Siganos, Gianmarco De Francisci Morales, Ashraf Abounnaga and Mohammed Zaki. Graph Data Mining with Arabesque. SIGMOD 2017 (**Best Honorable Mention**) [[Demo paper](#)]
6. Fatma H. Ismail, **Eslam Hussein**, Aboul Ella Hassanien, Tai-Hoon Kim. Blog Clustering with Committee Approach. Fourth International Conference on Information Science and Industrial Applications (ISI) 2015
7. **Eslam Hussein**, Ahmed Ibrahim Hafez, Aboul Ella Hassanien, Aly A Fahmy. A Discrete Bat Algorithm for the Community Detection Problem. International Conference on Hybrid Artificial Intelligence Systems (HAIS2015) [[paper](#)]
8. **Eslam Hussein**, Ahmed Ibrahim Hafez, Aboul Ella Hassanien, Aly A Fahmy. Community Detection Algorithm Based on Artificial Fish Swarm Optimization. IEEE Conf. on Intelligent Systems 2014 [[paper](#)]

## Projects

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**Amazon Audit:** This project aims to audit Amazon's search and recommendation systems for recommending misinformed vaccine items to the end-user. I am responsible for the following:

1. Experimental design of the project
  2. Data collection and processing
  3. Developing artificial bots that mimic the user interactions on Amazon (e.g., browsing and shopping)
  4. Develop models that classify Amazon items into promoting, opposing, or neutral to Vaccine misinformation. Utilizing features such as titles, descriptions, item ratings, and customer reviews
- Technologies: Python, Selenium, Pandas, Matplotlib, Scikit-learn, Tensorflow, Keras, PyTorch, and Google Cloud Platform

**YouTube Audit:** this project aims to audit YouTube's search and recommendation systems for recommending misinformative videos (fake news, conspiracies, rumors ... etc.) to the end user. I am responsible for:

1. Experimental design of the project
  2. Data collection and processing
  3. Developing artificial bots that mimic user interactions with YouTube (searching, watching videos)
- Technologies: Python, Selenium, Node.js, Pandas, Matplotlib, Scikit-learn, and Google Cloud Platform

**Arabesque** is a distributed graph mining system; I had:

1. optimized the memory utilization
  2. built applications on top of Arabesque
  3. built and configured Hadoop clusters
- Technologies: Hadoop, Apache Spark, Scala, Java, Python

**QFrag** is a distributed graph search system.  
I was responsible for porting QFrag to work on top of Apache Spark instead of Giraph/Hadoop.  
Using: Hadoop, Apache Spark, Scala, Java

## Skills

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**Languages:** Scala, Java, Python, C/C++, C#, VB.Net, Prolog, SQL/TSQL

**Frameworks/Systems:** Spark, Hadoop, PyTorch, Scikit-Learn, NLTK, Microsoft SQL Server, MySQL, Linux, ASP.NET, LINQ, WCF, XML, Javascript, JQuery, Git, SVN, RDF, Docker, Singularity, Google Cloud Platform, Selenium

**Natural Languages:** English, Arabic

**Relevant Coursework:** Data Analytics, Advanced Machine Learning, Graph Machine Learning, Social Computing, Statistics in Research, Information Retrieval, Learning based computer vision

## Work

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### **Advanced Research Computing (ARC)**

*Aug 2019 – present*

Graduate Research Assistant, working as a help-desk responsible for:

- assisting users (5400+ users) in running their computational job on ARC clusters
- helping users troubleshoot problems and errors while they run their jobs
- installing software on ARC's clusters (cluster-wide) that users will use in their computational jobs
- developing, maintaining, and deploying containerized applications on ARC clusters (Docker, Singularity)

### **Social Computing Lab, Virginia Tech**

*Aug 2018 – Aug 2019*

Research Assistant, responsible for designing and executing an algorithmic audit study about misinformation on YouTube

### **Qatar Computing Research Institute, Doha**

*Apr 2016 - Jun 2018*

Research Associate had several responsibilities developing/maintaining/testing Arabesque and QFrag.

### **Cairo University**

*Sep 2007 - Mar 2016*

Assistant Lecturer, Taught several Computer Science courses (Data Structures, Algorithms, NLP, AI, Software Engineering I and II, Artificial Intelligence)

### **Azhasys, Cairo**

*Aug 2011 - May 2012*

Software Engineer, developed a couple of projects

1. *PrevWage*: an employee payroll management module, Technologies: VB.Net, SQL Server 2008, JQuery
2. *NOSR*: an event management module  
Technologies: ASP.NET, SQL Server 2008, JQuery

### **Infinite Software Solutions Inc (ISSI)**

*Nov 2010 - July 2011*

Software Engineer, developed a communication module that sends Emails, Faxes, and SMSs to a list of recipients.

Technologies: ASP.NET, WCF, LINQ, SQL Server 2008, JQuery, Subsonic, NUnit.

### **Data Mining & Computer Modeling Center of Excellence, Cairo**

*Apr 2008 - Sep 2010*

Software Engineer, responsible for designing and developing a couple of projects

1. *Revenue Management System* (Plaza Hotel - Alexandria): A desktop application that uses machine learning to predict the revenue for the Plaza Hotel

Technologies: C#, SQL Server 2005, Crystal reports

2. *A Web portal* (Egyptian Ministry of Tourism): A portal that uses machine learning to forecast the number of tourists arriving in Egypt based on historical tourist arrival statistics in Egypt

Technologies: ASP.NET, SQL Server 2005, OLAP



## Students Mentorship

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**Josh Mathew:** B.Sc. Computer Science, Virginia Tech 2018-2022

**Tran Chau:** B.Sc. Computer Science, Virginia Tech 2019 - 2023

**Andrew Zhang:** B.Sc. Computer Science, Virginia Tech 2024



## Service

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**Reviewer:** ICWSM [2021, 2022], CSCW (2021, 2022, 2023), SNAM 2021, CHI 2022

**Program Committee:** ICWSM (2021, 2022)