DHIA ELHAQ RZIG

Ph.D. Candidate in Computer and Information Science at the University of Michigan - Dearborn. Seeking a Research focused internship in an innovative and dynamic environment.

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EDUCATION

Ph.D. in Computer and Information Science (Ph.D.) 09.2020 – 09.2024
Rackham Graduate School, University of Michigan – Dearborn Dearborn, MI, USA
- Cumulative GPA of 4.0.
- Relevant Courses: Data Analytics in Software Engineering, Compiler Design, and Natural Language Processing.
- Became a Ph.D. candidate at the Winter 2022 semester.

Software Engineering Diploma (M.Eng.) 09.2014 – 07.2020
National Institute of Applied Sciences and Technology (INSAT). Tunis, Tunisia
- Graduation project with the remark of Very Good (17.5/20), Top 3 of Class.

Master Of Information Processing and Complexity of Living Systems (M.Res.) 09.2019 – 07.2020
Joint Degree Program of National Engineering School of Tunis (ENIT) and Paris Cité University Tunis, Tunisia
- Graduation project with the remark of Very Good (18/20), Top 5 of Class.

Thomas Jefferson Scholarship Program: Undergraduate in Computer Science 08.2017 – 05.2018
Dickinson State University Dickinson, ND, USA
- Cumulative GPA of 3.96, on presidential list for both semesters.

RESEARCH EXPERIENCE

Graduate Student Researcher Collaborator 06.2021 – 05.2022
Microsoft Research Dearborn, MI, USA
- Research Collaboration with Nachiappan Nagappan (nnagappan@acm.org) and Chetan Bansal (chetanb@microsoft.com) on CI within ML projects, under the supervision of Dr. Foyzul Hassan (foyzul@umich.edu).
- Resulting publication: Characterizing the usage of CI tools in ML projects in ESEM 2022.

Graduate Student Research Assistant 09.2020 – Current
Software Engineering Lab - University of Michigan – Dearborn Dearborn, MI, USA
- Researching DevOps tools and practices in the context of AI/ML, VR/AR software projects, and other emerging technologies.
- Implemented two projects using Python, two projects using Java, and one project using C++ for my research papers, four of which are published in Top-tier venues.
- Working under the supervision of Dr. Foyzul Hassan (foyzul@umich.edu).

Research Assistant 03.2020 – 06.2020
Intelligent Software Engineering (ISE) Lab - University of Michigan – Dearborn Dearborn, MI, USA
- Designed and implemented new Knowledge-Based components in an automated software refactoring solution using association rules mining algorithms and historical data concerning software refactoring. These components resulted in better automatically generated software refactorings.
- Work accomplished under the supervision of Dr. Marouane Kessentini (kessentini@oakland.edu).

Data Science Intern 06.2019 – 08.2019
Mass Analytics Tunis, Tunisia
- Designed, developed, and evaluated two Marketing-Mix-Modelling 'marketing to sales' decomposition automatic modelers that use Machine Learning, specifically Genetic algorithms, which enhanced the performance and accuracy of the Mass Analytics tool.
- Deployed these tools using Docker, enabling a cloud-based and on-premises deployment of the tool.

Student Researcher in Artificial Intelligence 01.2019 – 05.2019
ISE Lab - University of Michigan - Dearborn and INSAT Tunis, Tunisia
- Designed and implemented knowledge-based crossover operators for the Genetic algorithm used in the Multi-Objective Software Refactoring, which improved the efficacy and efficiency of the refactoring tool.
- Work performed Under the supervision of Dr. Meriem Chater (meriemchater@yahoo.fr) and Dr. Marouane Kessentini.

WORK EXPERIENCE

Student Volunteer 07.2023 – 07.2023
International Symposium on Software Testing and Analysis (ISSTA) 2023 Seattle, WA, USA
- Assisted with the organization of the ACM SIGSOFT International Symposium on Software Testing and Analysis 2023.

Student Volunteer 10.2022 – 10.2022
International Conference on Automated Software Engineering (ASE) 2022 Oakland Center, MI, USA
- Assisted with the organization of the IEEE/ACM International Conference on Automated Software Engineering 2022.

Graduate Student Instructor — 09.2020 – Current
University of Michigan – Dearborn — Dearborn, MI, USA

- Supervised labs and held office hours to help student develop their programming and software engineering skills, and I also graded assignments and tests for the courses that I assisted with.

Classes instructed:

- Undergraduate Level: Computer Science II Lab, Software Engineering Tools Class, and Software Engineering II.
- Graduate Level: Data Analytics in Software Engineering, and Software Quality Assurance.

Data Analyst-Software Developer — 08.2019 – 10.2019
Democracy International — Tunis, Tunisia

- Built a Google Assistant bot using the Actions on Google platform, intended for a card game created by Democracy International.
- Collected real world data for election ad billboards, then cleaned it using Python and employed it to create an interactive map that shows the positions of these billboards.

PUBLICATIONS

Virtual Reality (VR) Automated Testing in the Wild: A Case Study on Unity-Based VR Applications — 07.2023
International Symposium on Software Testing and Analysis 2023

- First Author of the first research paper tackling the subject of testing in VR projects, done in collaboration with Villanova University. It was published in ACM ISSTA 2023, an A-level conference. I Presented this work in Seattle, Washington, on July 19th, 2023.

Characterizing the usage of CI Tools in ML projects — 09.2022
Empirical Software Engineering and Measurement (ESEM) 2022 Conference

- First Author of the first research paper tackling the subject of CI in ML projects, done in collaboration with Microsoft Research. It was published in ACM/IEEE ESEM 2022, an A-level conference. I Presented this work in Helsinki, Finland, on September 23rd, 2022.

An Empirical Study on ML DevOps Adoption Trends, Efforts, and Benefits Analysis — 08.2022
Information and Software Technology (ELSEVIER IST) Journal

- First Author of the first research paper tackling the subject of DevOps in ML projects. It was published in ELSEVIER IST, a Q1-Journal

X-SBR: On the Use of the History of Refactorings for Explainable Search-Based Refactoring and Intelligent Change Operators — 08.2021
IEEE Transactions on Software Engineering (TSE) Journal

- Second Author of this research paper. It was published in IEEE TSE, a Q1-Journal

AWARDS AND DISTINCTIONS

- Awarded an EXP+ Student Conference Presentation Grant 2022-23 from the University of Michigan – Dearborn to attend ISSTA 2023.
- Awarded a SIGSOFT CAPS ISSTA 2023 Travel Grant to attend ISSTA 2023.
- Awarded a full scholarship for the Ph.D. program at the University of Michigan – Dearborn in 2020, through the CECS Ph.D. fellowship.
- Selected for the Presidential list Fall 2017 and Winter 2018 at Dickinson State University.
- Selected for the Thomas Jefferson Scholarship Program for 1 year of non-Degree study at Dickinson State University for the Academic Year of 2017-2018.

CERTIFICATIONS

- Structuring Machine Learning Projects by Deeplearning.ai. (2019)
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization by Deeplearning.ai. (2019)
- Neural Networks and Deep Learning by Deeplearning.ai. (2019)
- Machine Learning by Stanford Online (2019)

RELEVANT SKILLS

TECHINCAL SKILLS

- Python, Java, C++, C#, R, Git, SQL, NoSQL (MongoDB), UML, SPSS

LANGUAGE SKILLS

- English: Fluent Written & Spoken, French: Fluent Written & Spoken, Arabic: Native

LEADERSHIP AND ACTIVITIES

- Mentor Collective for Graduate Student at UM-Dearborn, Mentor — 09.2022-Current
- Student Affairs Advisory Committee at UM-Dearborn, Member — 10.2022-Current
- Automated Software Engineering (ASE 2022) Conference, Student Volunteer — 10.2022
- INSAT Press, English language Editor-In-Chief — 08.2019-01.2020
- Dickinson State University Student Senate, Senator — 12.2017-06.2018
- IEEE INSAT Student Branch, Computer Society Chapter Chair — 06.2016-06.2017