Abbas Hommadi

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LinkedIn GitHub Google Scholar Website

Hilla, Babil - 51001, Iraq

Education

- **Utah State University** *May 2018*
  Master of Science in Computer Science Utah, USA
  - GPA: 3.85 / 4.00
  - Thesis: "Multi-Stop Routing Optimization: A Genetic Algorithm Approach" [Link]
  - Supervisor: Prof. Vicki Allan
- **University of Babylon** *July 2010*
  Bachelor of Science in Computer Science Hilla, Iraq
  - Awarded **First Class Honors** with a grade of 88.51/100
  - **Ranked 1st** among all students in the College of Science

Experience

- **University of Babylon [🌐]** *2018 - Present*
  Lecturer Assistant Hilla, Iraq
  - **Teaching**: Led labs and tutorials on Programming Fundamentals (C++), Object-Oriented Programming (Java), Data Structures & Algorithms (Java), Database Design (MSSQL), and Web Development (ASP.NET); designed course materials and mentored students in hands-on exercises.
  - **Software Development**: Designed, developed, and maintained multiple university-wide e-systems, including:
    - Thesis Management System
    - News Management System
    - Academic Profile System
    - Publication Evaluation System
    - 50+ departmental and college web applications

    Technologies used: ASP.NET, C#, MSSQL.
  - **Administration**: Managed and coordinated university-wide systems, including the Official Document Verification System, Bologna Information System (BIS), and Student Information System (SIS); ensuring operational efficiency and data integrity.
- **Utah State University [🌐]** *2016 - 2018*
  Graduate Teaching Assistant (GTA) Logan, USA
  - Graded assignments and exams using rubrics, provided feedback, and assisted students in mastering course material for the following courses:
    - CS1440: Methods in Computer Science
    - CS2420: Algorithms & Data Structures
    - CS5110: Multi-agent Systems
    - CS6890: Software Testing
- **University of Babylon [🌐]** *2010 - 2014*
  Lab Instructor Hilla, Iraq
  - Supervised and facilitated practical labs in Data Structures, Object-Oriented Programming, Web Development, and Image Processing, enabling students to apply theoretical concepts in hands-on exercises.

CERTIFICATIONS

- **Natural Language Processing Specialization** *Sep 2023*
  Coursera [🌐]
  - **C1**: Classification & Vector Spaces, **C2**: Probabilistic Models, **C3**: Sequence Models, **C4**: Attention Models
- **Deep Learning Specialization** *Jan 2024*
  Coursera [🌐]
  - **C1**: Neural Networks, **C2**: Hyperparameter Tuning & Optimization, **C3**: ML Project Structuring, **C4**: CNNs, **C5**: Sequence Models
- **Machine Learning Specialization** *Mar 2023*
  Coursera [🌐]
  - **C1**: Supervised ML, **C2**: Advanced Learning Algorithms, **C3**: Unsupervised Learning, Recommenders & Reinforcement Learning

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

[J.1] Ali Jaddoa, Hasanein Alharbi, **Abbas Hommadi**, Hussein A. Ismael. (2025). *Toward Scalable and Sustainable Detection Systems: A Behavioural Taxonomy and Utility-Based Framework for Security Detection in IoT and IIoT*. *IoT, 6(4), 62. https://doi.org/10.3390/iot6040062*.

[S.1] Azhar A. Hadi, **Abbas Hommadi**, Hussein A. Ismael. (2025). *A Hybrid Deep Neural Network for Arabic Fake News Classification based on Temporal CNN and BiLSTM with Attention*. *Manuscript in submission*.

[T.1] **Abbas Hommadi**. (2018). *Multi-Stop Routing Optimization: A Genetic Algorithm Approach*. Master's Thesis, Utah State University, supervised by Dr. Vicki Allan.

PROJECTS

- **Arabic Hate Speech Detection: A Federated Approach**
  - Fine-tuned BERT-based models in a Federated Learning framework to detect hate speech across multiple platforms (X, Meta, YouTube).
  - Preserved data privacy while enhancing cross-domain generalization and model robustness.
- **Web Service for Detecting Malicious URLs**
  - Developed a machine learning–driven web application for real-time URL classification.
  - Enabled proactive detection and blocking of phishing and malicious links.
- **Clickbait Detection from News Headlines**
  - Built an NLP-based classifier to distinguish clickbait from legitimate news headlines.
  - Leveraged textual features and deep learning to improve prediction accuracy.
- **AI for Rush Hour Game** 🌐
  - Implemented the A* search algorithm with multiple heuristics to evaluate efficiency in CPU time and node expansions.
  - Used Hill Climbing to generate challenging puzzle configurations, creating a rigorous testbed for heuristic evaluation and AI problem-solving.

SKILLS

- **Programming Languages:** Python, Java, C#, C++
- **ML & DL:** Pandas, scikit-learn, NLTK, Matplotlib, Tableau, PyTorch, TensorFlow, Hugging Face Transformers
- **Web & Software Development:** Django, ASP.NET, JavaScript, HTML, CSS
- **Databases:** MSSQL, PostgreSQL, MySQL
- **Version Control:** Git, GitHub, Bitbucket
- **Research & Documentation Tools:** LaTeX, Zotero, Overleaf

Honors and Awards

- **HCED Iraq Scholarship** *2014*
  The Higher Committee for Education Development in Iraq [🌐]
  ◦ Awarded to elite Iraqi students for pursuing graduate studies abroad (USA, UK, Australia) with the mission of advancing Iraq's education system.

- **First Class Honors, Top of College of Science** *2010*
  University of Babylon [🌐]
  ◦ Graduated as the top-ranked student in the College of Science, achieving First Class Honors in the Computer Science Department.

Languages

English: Professional Working Proficiency

- *IELTS UKVI Academic*: Score 7.0, British Council (Nov 2023)
- *Intensive English Language Institute (IELI)*, Utah State University: 2 semesters, GPA 3.72/4.0 (Dec 2014)

Arabic: Native Proficiency

References

1. **Dr. Vicki Allan (Master Supervisor)**
   Associate Professor, Department of Computer Science
   Utah State University, USA
   Email: vicki.allan@usu.edu

2. **Dr. Ali Jaddoa**
   Senior Lecturer, Department of Computing
   University of Roehampton, UK
   Email: ali.jaddoa@roehampton.ac.uk

3. **Dr. Hasanein Alharbi**
   Head of the Cybersecurity Department, College of Information Technology
   University of Babylon, Iraq
   Email: hasanein.alharbi@uobabylon.edu.iq