

LIDA SHAHMIRI

PhD Student

CONTACT

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PROFILE

A highly motivated PhD student in Computer Science specialising in machine learning and explainable AI. My research focuses on developing a robust framework for the automatic classification of medicinal plants in natural environments using CNN models. This includes the creation of a novel dataset partitioning method (GMM-MIGT) to improve model performance and a quantitative analysis of explainability techniques (LIME) to enhance transparency and validation. Passionate about solving real-world challenges in AI and advancing innovative solutions in complex domains.

SKILLS

Programming Languages: Python, C#, SQL
Deep Learning: TensorFlow, PyTorch, Keras
Image processing: OpenCV, scikit, Pillow
Data analysis and visualisation: NumPy, Pandas, Matplotlib, Seaborn, Tableau
Development Environments: PyCharm, Jupyter Notebook, Google Colab, Visual Studio, VS Code
Software Development: Version control (Git, GitHub), Agile methodologies
Cloud Computing: Microsoft Azure
Explainable AI Tools: LIME, SHAP, Grad-CAM

EXPERIENCE

Internal collaborator

Open University, Part-time, Milton Keynes, UK | 04/2024 - Present

- Assisting in analysing datasets using statistical tools and software to identify trends and evolutionary patterns in butterfly wings.
- Working closely with a team of researchers, providing insights and feedback to improve data accuracy and research methodologies.

Researcher & Developer

Pooya Samaneh Diva, Full-time, Sari, Iran | 02/2018 - 02/2019

- Led the development of new products from concept to launch, including formulation, testing, and refinement processes.
- Conducted technical research to enhance product performance and quality through improving existing products and developing innovative solutions.
- Analysed experiments and customer feedback data to inform product enhancements and new developments.

IT Administrator

Islamic Azad University, Part-time, Neka, Iran | 09/2016 – 02/2018

- Managed IT systems and performed technical tasks
 - Maintained and monitored network infrastructure
- Diagnosed and resolved hardware and software issues effectively

Lecturer

Islamic Azad University, Part-time, Neka, Iran | 09/2016 – 02/2018

Taught Computer Modules: Educated undergraduate students on various computer science subjects.

- Delivered lectures and guided practical sessions on basic computer concepts and introductory programming.
- Conducted hands-on laboratory sessions on computer networking principles and configurations.
- Facilitated workshops on operating systems, focusing on installation, configuration, and management.

- Taught programming language, operating system^{1,2}, computer networks, database design and management, basic visual programming, computer application in administrative affairs, computer basics in accounting, computer architecture and laboratory of computer architecture.

Lecturer

Andishehsazan University (Sana), Part-time, Neka, Iran | 09/2015 - 02/2018

Taught Computer Modules: Educated undergraduate students on various computer science subjects.

- Delivered lectures and guided practical sessions on the principles and technologies of computer networks.
- Conducted in-depth classes on operating system concepts, architecture, and administration.
- Taught Operating System Workshop 2, Graphic Software Laboratory, Internet Engineering, Entrepreneurship and Project, Software Engineering Laboratory, Computer Simulation, System Programming, special topics, Computer Basic and Programming, and Computer Graphics 2

IT Administrator

Andishesazan University (Sana), Part-time, Neka, Iran | 09/2015 – 02/2018

- Responded to requests for technical assistance, providing prompt and practical solutions to hardware and software issues.
- Assisted in the administration and troubleshooting of the university's network infrastructure.

Examiner

Technical And Professional Organization, Part-time, Neka, Iran | 09/2011 – 09/2016

- Examiner of Computer Modules: Evaluated and assessed practical computer modules for students.
- Practical Examinations: Conducted hands-on assessments to test students' proficiency in various computer science subjects.

Lecturer

Technical And Professional Organization, Full-time, Neka, Iran | 09/2011 - 09/2012

Taught Computer Modules: Delivered comprehensive instruction in various computer science subjects.

- Network+: Provided in-depth lectures and practical sessions on networking concepts, protocols, and hardware.
- Client for Microsoft XP and 7: Educated students on installation, configuration, and troubleshooting of Microsoft XP and Windows 7 operating systems.

EDUCATION

PhD. Degree in computer science

England, Open University (2021- present)

Thesis topic: Automatic Medicinal Plant Identification in Natural Environments Using Convolutional Neural Networks

M.Sc. Degree in Computer Science

Iran, Islamic Azad University (2013- 2015)

Thesis topic: Accurate identification of cars in a real-world system

BSc. Degree in Computer Science

Iran, Payam Noor, Mahmoud Abad (2007-2011)

CERTIFICATES

Azure AI Fundamentals certification, Microsoft, Nov 2023

Deep Learning Fundamentals, Cognitive Class (IBM), Jul 2022

Python 101 for Data Science, Cognitive Class (IBM), Jun 2022

Machine Learning with Python, Cognitive Class (IBM), Mar 2022

PAPERS

- Gaussian mixture model and mutual information guided data splitting algorithm for convolutional neural network training (working).
- Accurate medicinal plant identification in natural environments by embedding mutual information in a convolution neural network model ([Link](#)).
- Intrusion detection in IoT-based smart grid using hybrid decision tree ([Link](#)).