



Ashkan Aghamoali

AI Researcher | XR Developer

A self-made programmer who is looking for development in every moment of his life.

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📍 Staybridge Suit near Al-Maktoum airport

📅 09 March, 1994

🌐 linkedin.com/in/ashkan-aghamoali



SOFT SKILLS

- Collaborative
- Good communication
- Leadership
- Strong problem-solving
- Creative
- Work Ethic
- Time management
- Adaptability
- Conflict Resolution



TECHNICAL SKILLS

Programming Languages:

Python (NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, Keras), R, JavaScript, SQL, C#, C++

Data Analysis and Visualization:

Exploratory Data Analysis (EDA), Statistical Modeling, Data Visualization (Matplotlib, Seaborn, Plotly)

Machine Learning:

Supervised and Unsupervised Learning, Feature Engineering, Ensemble Methods, Natural Language Processing (NLP), Deep Learning, Reinforcement Learning

Computer Vision:

Real-time Video Processing, OpenGL, MATLAB, CUDA, Performance Optimization

MLOps:

Model Deployment and Monitoring, Version Control (Git), Containerization (Docker), Cloud Platforms(AWS, Azure, GCP)

App and Web Development:

Frontend (HTML, CSS, JavaScript, React) , Backend (Django, Node.js), Unity3D, AR, VR



EDUCATION

- **Master's Digital Electronic Systems**
University of Guilan, Iran
09/2016 - 01/2019

- **Bachelor's Electrical and Electronics**
University of Guilan, Iran
09/2012 - 10/2016

CERTIFICATIONS

[Certificate of "Inv" membership at IFIA-International Federation of Inventors' Associations](#)

[Developing AR/VR/MR/XR Apps with WebXR, Unity& Unreal \(University of Michigan\)](#)

[Machine Learning Specialization \(Stanford University\)](#)

[Deep Learning Specialization \(DeepLearning.AI\)](#)

[Deep Neural Networks with PyTorch \(IBM\)](#)

[Digital Technologies and the Future of Manufacturing \(University of Michigan\)](#)

WORK EXPERIENCE

● AI Researcher / XR Developer

London South Bank University (LSBU), Uk, London (Remote)

03/2020

Achievements/Tasks

Research:

- Collaborated with a multidisciplinary team to develop **bio-inspired structures**, enhancing efficiency and performance.
- Developed a **Python-based automation system** integrated with Computer-Aided Engineering Software for **parametric modeling**.
- Collected and analyzed a comprehensive dataset** (e.g., 1000 instances from Abaqus simulations) to inform design decisions and validate structural performance predictions.
- Implemented and evaluated various **machine learning algorithms** to accurately model structural behavior based on collected data.
- Applied **optimization algorithms** to fine-tune structural parameters, achieving optimized design solutions based on project requirements (e.g., cost minimization or performance maximization).
- Conducted in-depth **parameter sensitivity analysis** to understand the impact of input parameters on structural performance.

Developer:

- Created an **Extended Reality software** for iOS and Android that presents products, simulations, paper.
- Real-time parametric modeling in **AR** environment using C#
- ExplodeAR**: Separation of 3D objects from the center in an immersive AR environment
- Exploring Finite Element Method (**FEM**) Analysis through AR/VR
- Created **AR Business Card** with Unity3D
- Experience using AR SDKs such as **Vuforia, ARKit, ARCore**

● Research Assistant

University of Guilan, Iran, Guilan, Rasht

09/2016 - 01/2020

Achievements/Tasks

Developed a high-performance **object detection system** to address **color similarity** challenges in **video processing**.

Developed a hybrid algorithm using **HSV color space** and **Local Binary Patterns (LBP)** to enhance object detection accuracy by 40% in complex scenes.

Created custom **CUDA kernels for parallel processing**, achieving an 8x speedup over CPU-only implementations, enabling **real-time analysis** of 4K video at 30 fps.

Designed an interactive visualization module with **OpenGL**, featuring real-time rendering of detection results and user-adjustable parameters for dynamic thresholding.

Utilized **MATLAB's Image Processing Toolbox** for advanced preprocessing, including adaptive histogram equalization and GPU-accelerated filtering.

Implemented a **dynamic thresholding technique** that adjusts in real-time based on environmental conditions, improving detection robustness.



HONOR

🏆 Gold medal winner in the 3rd international invention and innovation competition for IFIA Inv members

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LANGUAGES



- English (Professional working proficiency)
 - Persian (Native proficiency)
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PUBLICATION

- Improvement of Camouflaged Moving Target Detection in Video Sequences
(3rd International Conference on Soft Computing)
- The Rise of Metaverse Manufacturing (Under-review)
- Innovative inspiration towards digital manufacturing (Under-review)