Farid Zandi

AI Engineer

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About Me

AI Engineer with a strong foundation in deep learning, computer vision, and cloud computing, enhanced by hands-on game development experience. I bring machine learning to life in real-time systems, whether it's robotic simulations or enemy AI in games.

I enjoy building intelligent systems that learn from data and interact with users in engaging ways. With a blend of academic research and creative development, I thrive in teams that combine engineering and imagination.

Skills

Languages	English (TOEFL 106/120 - C1), Italian (A2)
Programming	Python, C++, C#, Java, .NET, CUDA, Bash, Java Script, React, Node
AI/ML	Deep Learning, Computer Vision, Reinforcement Learning, NLP, Transformers, CNNs, RAG, LLMs, TensorFlow, PyTorch
Data Handling	Pandas, NumPy, Matplotlib, Scikit-learn, OpenCV, ElasticSearch
Cloud/Infra	Docker, Kubernetes, Azure, REST APIs, Git, Linux, CloudSim
Soft Skills	Teamwork, Communication, Quick Learning, Staying Calm Under Pressure

Education

MSc in Computer Engineering – AI and Data Analytics *Sep 2024 – Present*
Politecnico di Torino

BSc in Computer Engineering *Sep 2019 – Feb 2024*
Ferdowsi University
Thesis: Workflow Scheduling in Cloud Environments. GPA (last 2 years): 17.37/20

Work Experience

Game Programmer and Designer *Mar 2020 – Present*
Fake Reality / FrostByte
- Developed intelligent game systems and **enemy AI** for 2D/3D titles using **Unity**, **Unreal Engine 5**, and **Godot**, focusing on behavior design and decision logic.
- Designed and implemented AI systems for three games, including adaptive difficulty and drone autonomy, improving player engagement and challenge pacing across 30+ levels.

Research Assistant – Cloud Computing Lab *Apr 2023 – Jul 2025*
Ferdowsi University
- Co-authored a peer-reviewed literature review on workflow scheduling, analyzing 500+ papers to identify key performance metrics.
- Developed and tested 3 scheduling algorithms in simulated cloud environments, achieving up to 22% reduction in average workflow completion time.

Research Assistant – Robotics Lab *Nov 2023 – Oct 2024*
Ferdowsi University
- Built a real-world driving simulation in **UE5 + Cesium** for robotic ML experiments.
- Captured image data for **computer vision** tasks and improved 3D reconstruction accuracy by **30%**.
- Implemented automated C++ pipelines for image capture and synthetic data generation, increasing data throughput for training pipelines by 50%.

Computer Vision Intern *Jul 2023 – Sep 2023*
Veerasense
- Contributed to a real-world ML pipeline for estimating cattle health metrics using computer vision.
- Collected and annotated 500+ real-world images for a custom dataset, enabling precise model training on anatomical keypoints.
- Fine-tuned 4 detection models (YOLO, SAM, Unet, Detectron2) and achieved a 28% improvement in segmentation accuracy over baseline.
- Achieved accurate segmentation with SAM/Detectron2, significantly improving detection performance.
- Completed a 5 month industrial research task in just 3 months, including model training, benchmarking, and delivery.

Certificates

Deep Learning	*Specialization by DeepLearning.AI* **Topics:** Neural Networks, CNNs, Sequence Models, Optimization	*Nov 2023*
Machine Learning	*Specialization by DeepLearning.AI, Coursera, Stanford CPD, UVM* **Topics:** Supervised/Unsupervised Learning, Recommenders, RL	*Aug 2023*

Projects

Seizure Detection CNN	EEG-based classifier using custom preprocessing and **CNN** architecture. *Tech: Python, NumPy, TensorFlow.*	GitHub
Recommender & RAG System	Hybrid recommendation and Retrieval-Augmented Generation pipeline. *Tech: LLMs, ElasticSearch, Python.*	GitHub
CUDA Image Search	GPU-accelerated image similarity using **Hu Moments** and histogram matching. *Tech: CUDA, C++, OpenCV.*	GitHub
AI Abalone Game	Strategic board game AI using Minimax, alpha-beta pruning, and state caching. *Tech: Godot, GDScript, Game AI.*	GitHub
ExoBarrier	2D tower defense game with custom turret targeting and adaptive enemy behavior systems. *Tech: Unity, C#, Photoshop.*	View on Portfolio
Last Defence	3D tower defense game focused on autonomous drone AI and survival logic. *Tech: Unity, C#, Blender, Photoshop.*	View on Portfolio
Children of Chaos	2D roguelike platformer with procedurally randomized upgrades and enemy AI. *Tech: Unity, C#, Photoshop.*	Play on Itch.io
Stuff Happens Card Game	Web-based memory and strategy game with turn-based state management and hundreds of possible outcomes. *Tech: React, Node.js.*	GitHub
Cloud REST API Infra	Built a production-ready backend in Go with Docker/K8s deployment; supported scalable MySQL services and handled 100+ concurrent API requests in testing. *Tech: Go, Docker, K8s.*	GitHub