Fardin Rastakhiz

AI Engineer

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Gachsaran, Kohgiluyeh and Boyer-Ahmad, Iran

Social Network

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FardinRastakhiz

Education

Master of Computer Engineering

Branch: Artificial Intelligence and Robotics

Institute/University: Shahid Bahonar University of Kerman

Kerman, Iran

September 2021 - June 2024

GPA: 19.03

Bachelor of Mechanical Engineering

Branch: Solid Design

Institute/University: Yasouj University

Yasooj, Kohgiluyeh and Boyer-Ahmad, Iran

2009 - 2015

GPA: 13.61

Bachelor of Information Technology Engineering

Branch: Information Technology

Institute/University: Gachsaran University of Applied Science 1

Gachsaran, Kohgiluyeh and Boyer-Ahmad, Iran

2018 - 2019

GPA: 18.10

Language

English : B2

Profile Summary

Artificial Intelligence engineer with a master's degree from Shahid Bahonar University of Kerman, GPA 19.03/20.0, specializing in deep learning, graph neural networks, language models, and optimization techniques. Interested in progress in advanced AI fields such as large language models, deep learning, and reinforcement learning and their applications, ready to advance in related areas with proficiency in relevant tools.

Skills

Python / ML libraries	■■■■■	Machine Learning	■■■■■
Neural Networks - DL - Pytorch	■■■■■	C# / Unity / Asp.NET	■■■■■
Natural Language Processing (NLP) / LLMs	■■■■■	Image Processing	■■■□□
GitHub	■■■■■	Latex	■■■□□
Object Oriented Concepts	■■■■□	Docker	■■■□□
C/C++	■■■□□	React	■■■□□

Research

Beyond Words: A Heterogeneous Graph Representation of Text via Graph Neural Networks For Classification

Publisher: IEEE

March 2024

Link: https://ieeexplore.ieee.org/document/10475238

In this research, a method based on Graph Neural Networks (GNNs) for text classification is presented, which converts raw text into heterogeneous graphs. This method extracts both explicit and implicit details from the text without requiring adjustments to maximum length or padding. In this project, I deepened my understanding of Graph Neural Networks and Natural Language Processing, and it became a starting point for further work on developing new graph-based architectures for my projects.

QuickCharNet: An Efficient URL Classification Framework for Enhanced Search Engine Optimization

Publisher: IEEE

November 2024

Link: https://ieeexplore.ieee.org/abstract/document/10729268/metrics#metrics

The QuickCharNet model is a new architecture for classifying short texts and URLs, improving real-time processing accuracy and efficiency by combining character-level convolutional neural networks with token-level representation. Additionally, it analyzes the importance of optimal URL naming in improving SEO page rankings. Although this project is CNN-based, I leveraged my knowledge of GNNs to innovate on its architecture and enhance its efficiency and performance.

Certificates

Teaching Techniques (CBT)

Institute: Technical and Vocational Training Organization

2015

Work Experience

Research Assistant

Shahid Bahonar University of Kerman

Kerman, Iran

August 2023 - Present

Tasks and Achievements

Led a research project that developed three novel language model architectures, reducing computational space and time complexity by a factor of d, with d being the embedding size of the n-grams. Applied one innovative architecture to enhance SEO and malware/spam detection, resulting in a 4.92% improvement in SEO for meaningful URLs. The work is now published in IEEE Access.

Computer Engineer

Black Hills Media Company Gachsaran

Gachsaran, Kohgiluyeh and Boyer-Ahmad, Iran

August 2013 - Present

Tasks and Achievements

Designed, built, and developed various software, designed business plans in the software domain, registered 3 technologies in the tech market, membership in Yasouj University Incubator and the Science and Technology Park of Kohgiluyeh and Boyer-Ahmad Province, promoting the company to join the ecosystem of creative companies, familiarization with knowledge-based principles and research and development.

Projects

StoryTeller Website

January 2025

Implementation of an intelligent solution in the form of a full-stack project includes the following:

- Back-end section: Using Asp.net and related libraries and tools
- Front-end section: Using React; consists of two parts: Editor containing artificial intelligence utilization, and the application part, fully implemented as SSR (Server-Side Rendering)
- Development and use of artificial intelligence: Includes the use of foundation models and development of agent-based systems for fully automated content generation
- Development of deep learning models: For analyzing various sections of the website for different applications such as analysis, SEO, sentiment analysis, and spam detection

Development of a Fast and Reliable Solver for the Equation Ax = b on Large and Sparse Matrices

For: Dr. Amir Raouf

August 2023

By researching preconditions, initial guess methods, data structures, and lots of innovation, implementation was done with C/C++ and optimized for CPU and GPU using OpenMP, CUDA, and OpenCL. The result was a scalable and efficient library for solving these equations in various environments.

Link: https://github.com/FardinRastakhiz/PS_Solver

Porosity Calculation Software

For: Personal (Science and Technology Park K.B.)

October 2022

In this project, developed a specialized software tool that calculates membrane porosity and permeability, reducing analysis time by 50% and enhancing accuracy by 10%. A new CNN model was trained for SEM image segmentation, and classical algorithms were used to extract parameters. Due to a lack of data, data augmentation methods were employed. The training was implemented in Python and PyTorch, with inference performed in Unity using C#.

Link: Available soon at fardintech.ir

Pursuit of Redemption Game

For: Amir Alizadeh

February 2022

Designed and developed a platformer and puzzle-style game in Unity; As a member of a cross-functional team, my role in this project involved programming, tool development, optimization, and debugging. I could resolve all issues assigned to me such as improving frame rate from 20 FPS to 60 FPS. The game was successfully and professionally published on the Steam platform.

Link: https://store.steampowered.com/app/1313630/Pursuit_of_Redemption/

The Potential Jump Game

For: Amir Alizadeh

May 2022

This project involves developing a 2D educational, story-driven game with five levels, created in collaboration with an artist for character and environment design. A key technical challenge was building a pipeline to manage various events and art animations, allowing different stages of the game to be seamlessly connected like a puzzle.

Link: https://www.youtube.com/watch?v=Buicef1QHLk

Forbidden Speed Game

2014

An open-world racing game developed through teamwork over several years, which received a publishing license in both 2014 and 2015. In 2017, it was approved as a creative product within the ecosystem of creative companies. This project included many diverse components completed collaboratively, such as the urban traffic system, optimization of various game-play elements, the game's story, city design, detailed 3D models, buildings and streets, vehicles, and many other aspects.

Other Projects

For: Others

With over a decade of professional experience, I have completed numerous projects in software and game development, which have strengthened my proficiency in various areas. These projects include NLP models and image processing using architectures such as GNN, CNN, Transformer, LSTM, and GRU; the games Forbidden Speed and Pursuit of Redemption; Ahoog software; the development of hyper-casual games; and the design of a personal website and management panel using React and ASP.NET Core.

Link: https://github.com/FardinRastakhiz?tab=repositories