Elnaz Watkins

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Highly analytical and detail-oriented professional with a proven background in research, software development, machine learning and data science; eager to leverage academic knowledge and technical proficiency in deep neural networks, and Generative AI with a keen commitment to ongoing learning in this dynamically evolving field. Possess a solid understanding of deep neural networks, transformers architecture, statistical analysis, and data manipulation techniques.

Education

Masters of Science in Computer Science
(GPA: 4.0/4.0)
Southern Illinois University, Carbondale, IL, May 2017

Bachelor of Science in Computer Software Engineering
Qazvin Azad University, Qazvin, IR, Dec 2006

Tech Skills & Expertise

Programming Languages:
Python, SQL, VBA, Java

Generative AI:
LLM
Transformers
LangChain
LlamaIndex
Fine Tuning (LoRA, Full fine-Tuning)
Evaluation
TruLens
Prompt Engineering

Deep Learning Frameworks:
Tensorflow
PyTorch
Keras

Machine Learning Algorithms:
Supervised Learning
Unsupervised learning

Data Preprocessing and Augmentation:
Time Series techniques
Visualization(Matplotlib, seaborn)
Data cleaning and normalization

Cloud Platforms:
AWS (EC2, DynamoDB, S3, Data Lakes, SageMaker)

Vision Control:
Git and GitHub
Jira

Publications

Fathi, Elnaz Jedari, Shahram Rahimi, and Dunren Che 'Predicting Social Network Check-in Locations: Noise Impact Reduction for Classification.' 02.CATA.2018.1.1037: pages 62-68

Career Experience

Data Scientist   **Sep 2020 — Mar 2023**
Amdocs Inc., Remote

Led the development of an automated data validation system for the prominent U.S. cellular telecommunications provider, driving revenue protection efforts. Employed advanced SQL and Python techniques to scrutinize data and distill valuable insights. Generated machine learning models to predict revenue loss, promotions impact, and server overloads.
- Developed an automated data pre-processing solution reducing workload by 90%.
- Implemented time series forecasting models for promotional Impact analysis in the telecom industry, quantifying promotion effectiveness in driving revenue.
- Provided actionable insights analyzing data gained from server logs, preventing system failures during high-traffic times, achieving 30% enhancement in resource tolerance on Black Friday.
- Uncovered 15% revenue leaks by evaluating data trends.
- Streamlined multiple business analysis process, reduced task completion time from 8 hours to 5 seconds using optimized coding techniques.
- Earned top-tier customer satisfaction through consistent excellence for two consecutive years.

Software Engineer   **Apr 2017 —Aug 2020**
Amdocs Inc., Champaign, IL

Delivered extensive support for telecommunication industry CRM (Customer Relationship Management) and RIM (Retail Inventory Management) applications, both Back-End and Front-End. Demonstrated problem-solving and DevOps skills in cross-functional bridge calls, and conducting root cause analysis for critical issues.
- Identified and resolved data errors affecting software performance utilizing SQL and log data analysis, leading to a 30% decrease in opened tickets.
- Diagnosed, debugged, and replicated problems from both business and application/code viewpoints, proposing and implementing corrective actions.
- Ensured efficient operation of applications to meet diverse Service Level Agreements (SLAs) and critical metrics.
- Employed Java programming expertise to identify, diagnose, and rectify application bugs and failures, improving software performance.

Professional Certificates

- Building Machine Learning Pipelines in PySpark MLlib, Coursera, 2024
- Building and Evaluating Advanced RAG Applications , DeepLearningAI, 2024
- Building Machine Learning Pipelines in PySpark MLlib, Coursera, 2024
- Introduction to Big Data with Spark and Hadoop, Coursera, 2024
- Generative AI with Large Language Models (LLM), Coursera, 2023
- ChatGPT Prompt Engineering for Developers, DeepLearningAI, 2023
- AWS Cloud Technical Essentials, Coursera, 2023
- Introduction to Designing Data Lakes on AWS, Coursera, 2023
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization, Coursera 2023
- Advanced Learning Algorithms, Coursera, 2023
- Supervised Machine Learning: Regression and Classification, Coursera, 2023
- Unsupervised Learning, Recommenders, Reinforcement Learning, Coursera, 2023
- Data Analysis with Python (IBM), Coursera, 2023
- Structuring Machine Learning Projects, Coursera, 2018
- Deep Neural Networks: Hyperparameter Tuning, Regularization & Optimization, Coursera, 2018
- Neural Networks and Deep Learning, Coursera, 2018

Other Skills

Project management:
Experience in managing and leading data preprocessing projects

Continuous Learning:
Demonstrated commitment to staying updated on the latest advancement in Generative AI

Communication Skills:
Ability to convey complex technical concepts to non-technical stakeholders

Other:
Python Modular Programming
HTML/CSS
Hadoop
PySpark
Distributed Computing
Linux
SPLUNK
Graphana
Dynatrace
Excel Macros
Google Sheets

Projects

Significant Wave Height Time Series Forecast:
A machine learning and data analysis solution to predict significant coastal wave height using time series analysis and XGBoost model training.

Text Summarizer End-to-End Project in Python:
Created a modular python application for a simple text summarizer ML application. I utilized VSCode for modular programming.

Predicting Social Network Check-in Locations: Noise Impact Reduction for Classification:
Used R to create a Machine Learning model to predict the next check-in place based on places check-in history. Researched and developed a novel noise handling mechanism and improved the model performance significantly.

LangChain Small Project:
Created an application that receives the cuisine type of a restaurant (e.g., Iranian, Mexican, Italian) and suggests a name and menu items for it. using LLM and LangChain

Volunteer Experience

Data Processing Automation   **Jan 2024— Current**
Hill Country Community Ministry

- Automating report generation (daily/monthly) to facilitate efficient food distributions and data collection.
- Harnessing automation techniques to enhance accuracy and timeliness.
- Delivering insightful statistical analyses of food demand and distribution patterns to inform strategic decision-making and optimize resource allocation.

Other Career Experience

Virtualization System Administrator   **2014 — 2016**
Southern Illinois University, Carbondale, IL

- Administrated NETLAB+ virtual lab system
- Managed a multi-node VMWare cluster running vSphere and vCenter
- Implemented a vmWare cyber stadium to host SIU cyber defense mock competition in April 2015 & 2016.

Instructor   **2015 —2017**
Southern Illinois University, Carbondale, IL

Courses:
- Linux Essentials
- Network Protocols and Applications
- Information Storage and Management
- SQL Database

Graduate Teaching Assistant   **2014 —2016**
Southern Illinois University, Carbondale, IL