Arash Tashakori

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⬛ GitHub Page   🌐 Website

📍 Halifax, NS

Education

Bachelor of Computer Science   Dalhousie University   GPA: **3.87**/4.30   2020-2025

- Relevant Courses: Software Engineering, Data Structures and Algorithms, Algorithm Design and Analysis, Intro to Database Systems, Web Design and Development, Data Mining and Warehousing, Foundations of Machine Learning, Natural Language Processing, Designing User Interfaces, Network Computing, Systems Programming, Principles of Programming Languages, Game Development, Workplace Communications

Skills

- **Programming Languages**: Java, Python, HTML, CSS, JavaScript, C, C#, C++, SQL
- **Libraries:** React, Spring Boot, Node.js, Bootstrap, JUnit, PyTorch, NumPy, Pandas, Keras, Scikit-Learn, Unity
- **Tools**: Git, Figma, Linux, Microsoft Office, MySQL Workbench, Visual Studio, Google Colab
- **Interpersonal**: Teamwork, Presentation, Communication, Active Learning, Adaptability, Critical Thinking
- **Other Relevant Skills**: Algorithm Design and Analysis, Database Design, User Interface Design, Object Oriented Programming, Test-Driven Development, Software Testing, Agile Practices, Machine Learning, Data Mining, Natural Language Processing, Generative AI, Web Development, REST API Design

Relevant Experience

Generative AI Extern   Cognizant   06/2024 - 08/2024
Toronto, Ontario

- Completed two projects focused on deep learning, generative AI and natural language processing with Cognizant. (Python, NumPy, PyTorch, Pandas, PEFT)
- Utilized, tested and compared three pre-trained Convolutional Neural Network (CNN) models for animal image classification, evaluating and optimizing their performance based on accuracy and computational efficiency.
- Applied lightweight fine-tuning techniques to a GPT-2 model using Hugging Face's PEFT library, enhancing sequence classification accuracy from 36% to 59%.
- Acquired hands-on experience with Python, machine learning frameworks (i.e., PyTorch and NumPy), generative AI, and model optimization for image and text classification through completing the projects.
- Proactively self-taught multiple Python libraries for the projects, showcasing strong determination and quick learning abilities.

Software Developer Intern   AloDoctor   05/2022 - 08/2022
Tehran, Iran

- Worked as a software developer intern, focusing on both backend and frontend development to enhance the website's functionality and user interface. (HTML, CSS, JavaScript, Bootstrap, Node.js, SQL)
- Collaborated with a team of 4 web developers, utilizing Agile methodology to implement new features, such as a physician rating system, patient login, tracking of favourite doctors from interactions, user recommendation forms, searching, filtering, and improved appointment booking.
- Enhanced the user interface, responsiveness and overall user experience of the website with a more intuitive and user-friendly design, receiving positive feedback from the users and the team.

Web Developer Intern   Sharif University of Technology   06/2019 - 09/2019
                                                                          Tehran, Iran

- Worked on developing and maintaining a responsive and interactive website for Dr. Jawad A. Salehi, a professor at Sharif University of Technology. (HTML, CSS, JavaScript)

- Gathered the client's requirements to develop a website suited to their needs.

- Gained valuable skills in web development, time management, and client communication through developing the website in a timely manner.

- Completed the development and ongoing maintenance of the website successfully, ensuring it met the client's expectations and requirements.

Projects

Boardify - a collaborative list-making app   Dalhousie University   06/2023 - 08/2023

- Developed a Trello-like web-based collaborative list-sharing app in collaboration with 2 teammates, using React, Spring Boot, MySQL and Git.

- Designed a relational database to organize and store project-related data.

- Employed Test-Driven Development (TDD) practices and wrote test cases before developing the backend, achieving over 70% testing line coverage.

- Utilized Git for collaborative development and ensured timely completion of each milestone and final delivery.

- Implemented key features such as user registration and authentication, resetting passwords, creating workspaces and task lists, managing to-do items, task searching, and filtering tasks by status and due date.

Java Scheme Interpreter   Dalhousie University   05/2024 - 06/2024

- Developed a comprehensive Scheme language interpreter in Java, implementing core Scheme functionalities such as lambda expressions, conditionals, list manipulation, and logic and arithmetic operations.

- Applied Object-Oriented Programming to enhance code modularity and maintainability, following a Test-Driven Development process with rigorous unit and integration testing for quality assurance.

- Designed and implemented a parser, tokenizer, and evaluator for Scheme expressions, including handling recursive evaluation of nested expressions and lists.

Recipe Retrieval with Python   Personal Project   05/2024 - 06/2024

- Developed a recipe search engine using Python and its libraries such as Pandas, Scikit-learn and Whoosh, implementing text preprocessing techniques such as Stop word removal, lemmatization, and tokenization.

- Built and optimized term-document incidence matrices and inverted indices to enable efficient recipe retrieval and word-based filtering across a large dataset of food recipes.

- Implemented search algorithms including TF-IDF and Jaccard similarity to rank search results and developed an inverted index using Binary Search Trees, enhancing efficiency and the relevance of query results.

- Demonstrated proficiency in Python and algorithm design by successfully completing the project.

Machine Learning Projects   Dalhousie University   02/2024 - 04/2024

- Developed and implemented multiple machine learning algorithms from scratch, including K-nearest neighbours and K-means clustering, applying them to both synthetic and real datasets.

- Built and optimized Neural Network models such as Convolutional Neural Networks and Multi-layer Perceptron for image and binary classification tasks using Python, NumPy, Keras, and TensorFlow.

- Applied performance analysis and hyperparameter optimization, leveraging libraries like NumPy, Pandas and Matplotlib to evaluate models using various metrics and visualizations.

- Applied ML algorithms like Naive Bayes, SVM, and Neural Networks to predict outcomes in various datasets.

For more projects, please check my GitHub page or my website.