SOURENA KHANZADEH

Research Scholar - Computer Science

CONTACT

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SKILLS

Python	7+ yrs
C/C++	5+ yrs
JavaScript	4+ yrs
Machine Learning	3 yrs
Linux	7+ yrs
Web Development	5+ yrs
Game Development	3+ yrs
Cyber Security	1 yr
Natural Language Processing	1 yr
Blockchain	1 yr
Cloud	1 yr
Computer Vision	2 yrs

EDUCATION

MSC. - Computer Science - AVG: 4.33 — **2022 - ongoing**
TMU - Toronto, ON (Canada)

Top Courses: Deep Learning, Heuristic Search, Research Methods, CyberSecurity

BSC - Computer Science - AVG: 3.36 — **2018 - 2022**
TMU - Toronton, ON (Canada)

Top Courses: Artificial Intelligence **(A)**, Machine Learning **(A+)**, Reinforcement Learning **(A+)**, Computer Vision **(A+)**

WORK EXPERIENCE

Teaching Assistant — **Jan 23 - Apr 23**
TMU, Toronto (ON)

As a Teaching Assistant at Toronto Metropolitan University, I have been afforded the opportunity to play a crucial role in the academic development of a multitude of students. Specializing in software engineering, I have imparted knowledge in various courses, such as CPS506, CPS630, and CPS888, while maintaining a professional and structured learning environment.

Software Engineer Intern — **Apr 22 - Jul 22**
NTN, Toronto (ON)

As a Software Engineer at NTN, I have demonstrated exceptional technical acumen and dedication to delivering high-quality software solutions. My strong foundation in computer science, combined with my ability to quickly adapt to new technologies and methodologies, has allowed me to contribute significantly to the company's success. I have played a key role in the development and optimization of numerous software applications, ensuring that they meet stringent performance and usability standards.

PUBLICATIONS

Opti Code Pro: A Heuristic Search-based Approach to Code Refactoring
Status: Under Construction

This paper presents an approach that evaluates best-first search methods to code refactoring. The motivation for code refactoring could be to improve the design, structure, or implementation of an existing program without changing its functionality. To solve a very specific problem of coupling and cohesion, we propose using heuristic search-based techniques on an approximation of the full code refactoring problem, to guide the refactoring process toward solutions that have high cohesion and low coupling. We evaluated our approach by providing demonstrative examples of the effectiveness of this approach on random state problems and created a tool to implement the algorithm on Java projects.

SOFT SKILLS

Communication Good

Problem Solving Excellent

Teamwork Excellent

Adaptability Excellent

Time management Excellent

Leadership Good

Optimizing Gas Consumption in Ethereum Smart Contracts: Best Practices and Techniques
Status: Under Construction

Full-fledged applications, known as "smart contracts," may be executed on blockchains. At this time, the quantity of Ethereum smart contracts written in the Solidity programming language is skyrocketing. The cost for executing smart contract code is measured using gas. Gas is used to allocate resources of the Ethereum virtual machine (EVM) so that wallet transactions and smart contract transactions can self-execute. Complicated transactions involving smart contracts require more computational work, so they require a higher gas limit than a simple payment.

PROJECTS

SnakeAI 2021
Tool: Python

Reinforcement learning snake game that learns to eat the food by itself.

Face Detection 2021
Tool: Matlab

A face recognition system that uses a deep learning model to recognize faces.

Paxos Algorithm 2020
Tool: C++, SFML

A distributed consensus algorithm.

iShare 2019
Tool: Python, Flask

paperswithcode clone.

ChessAI 2023
Tool: C++, SFML

A chess game with an ai that measures the quality of the moves user made.