

Education

Master of Computer Science
UNIVERSITY OF NEW BRUNSWICK

Fredericton, NB, Canada

Bachelor of Computer Engineering
SHAHID BEHESHTI UNIVERSITY

Tehran, Iran

Experience

Human-Robot Interaction Laboratory
RESEARCH ASSOCIATE

UNB, Fredericton, Canada

September 2023 - Present

Applied UI/UX principles to Teleoperation interfaces, in order to achieve better user performance and experience. Implemented automation for robot network configuration.

Used ROS and tkinter along with Python3 to develop the interface and operate the robot

Robotics Laboratory

SBU, Tehran, Iran

RESEARCH ASSOCIATE

July 2021 - Present

Applied Reinforcement Learning, and Data Mining principles to Soccer Simulation 2D League for RoboCup Competitions to analyze and improve team performance

Applied the same principles in addition to Obstacle avoidance, and Navigation algorithms to develop A.I. for SBU Omni-Directional Robot, and resolved sensor inaccuracies to enhance high-precision mapping capabilities.

Worked with C++, Pandas, TensorFlow, ROS, Webots, Docker, and Catkin

Introduction to Game Development

UNB, Fredericton, Canada

TEACHING ASSISTANT

January 2024 - April 2024

Instructor: Daniel J. Rea; Responsible for marking and reviewing the lab assignments

Used Godot Engine.

Introduction to Robotics

SBU, Tehran, Iran

INSTRUCTOR

June 2023 - August 2023

Instructed for summer workshops, in order to recruit new passionate individuals for the lab.

Taught Fundamentals of Robotics, Machine Learning, A.I. Algorithms, and Simulation concepts

Concealment Game Studio

SBU, Tehran, Iran

GAME DEVELOPER INTERN

February 2023 - April 2023

Applied Reinforcement Learning, Imitation Learning, and Curriculum Learning for Procedural Content Generation (PCG, procedural animation for a humanoid character) to reduce the animation state complexity for artists.

Worked with Unity3D IK frameworks, animation rigging package, and ML model training.

Introduction to Algorithms Design

SBU, Tehran, Iran

TEACHING ASSISTANT

September 2022 - December 2022

Instructor: Ramak Ghavamizadeh; Responsible for teaching labs and designing lab assignment problemsets.

Used C++ and bash scripts to automate the test units for marking.

Introduction to Robotics

SBU, Tehran, Iran

INSTRUCTOR

June 2022 - September 2022

Instructed for summer workshops, in order to recruit new passionate individuals for the lab.

Taught Fundamentals of Robotics, Machine Learning, A.I. Algorithms, and Simulation concepts

NAO Research and Development Group

SBU, Tehran, Iran

ROBOTICS ENGINEER INTERN

July 2021 - September 2021

Responsible for Robot motion and A.I.

The project was implementing an autonomous control system for SBU omni-directional robot. Applied Localization and Mapping algorithms using ROS2 slam libraries with LIDAR sensors.

Applied using Python3.

Fixing the 3D Model in Webots which was causing a dynamic motion failure and getting familiar with robot 3D models, URDF and Proto, and the SBU omni-robot structure in Webots.

Setting Up the ROS2 platform for the robot and getting familiar with the ROS2 networking protocols and architectures.

Digital Logic Circuits

SBU, Tehran, Iran

TEACHING ASSISTANT

February 2019 - June 2019

Instructor: Hamidreza Mahdiani; Responsible for marking concept assignments.

Honors and Awards

RoboCup 2024 International Competitions, Soccer 2D Simulation League

RANKED 5TH - AS A MEMBER OF R2D2 TEAM

Summer - 2024

Scholarship from School of Graduate Studies, University of New Brunswick

BOARD OF GOVERNORS MERIT AWARDS FOR GRADUATE STUDIES

Fall - 2023

RoboCup IranOpen2023 International Competitions, Soccer 2D Simulation League

RANKED 3RD - AS A MEMBER OF R3CESBU TEAM

Spring - 2023

The Best Bachelor Thesis Project

NOMINEE

Summer - 2022

ROBOIUT2021, Webots' Line Follower league, Isfahan university of technology

RANKED 1ST

Fall - 2021

Konkour, National University Entrance Exam

TUITION WAIVED ADMISSION TO SHAHID BEHESHTI UNIVERSITY - RANKED TOP 4%

Fall - 2017

Skills

Languages : Python, C/C++, Javascript, **Frameworks** : Keras/Tensorflow, Node.JS, React, OpenCV, PyTorch, **Databases** : SQL, PostgreSQL, Pandas, Redis **Simulators** : Webots Simulator, Unity Game Engine, Robocup Soccer Simulator, Gazebo Robot Simulator, OpenAI Gym, **Knowledge** : Computer Vision, Image Processing, Signal Processing, ML, ANNs, Reinforcement Learning, SLAM (Simultaneous Localization and Mapping), Planning, Optimal Control, Evolutionary Algorithms **Operating Systems** : Windows, Ubuntu, Raspbian **MISC.** : Robot Operating System(ROS), GIT, Docker, CUDA

Languages

• **English** : Fluent

• **Persian** : Native

• **Japanese** : Intermediate

Publications

Generating Hand-Written Symbols With Trajectory Planning Using A Robotic Arm

[\[more info\]](#)

2023 13TH INTERNATIONAL CONFERENCE ON COMPUTER AND KNOWLEDGE ENGINEERING (ICCKE)

27 Nov 2023

Projects (Chronological Order)

Avatar Robots to Mitigate Social Biases

RESEARCH PROJECT -- PROFESSOR DANIEL J. REA

Summer 2024

Inducing Empathy, A Method of Integrating Social Interfaces to Teleoperation

[\[more info\]](#)

MASTER THESIS -- SUPERVISOR: PROFESSOR DANIEL J. REA

Winter 2024

Overcoming Phobias Through Virtual Reality Exposure

HOBBY PROJECT

Winter 2024

Implementation and Analysis of Binary Index Trees for Historical Blockchain Databases [\[more info\]](#)

BIG DATA SYSTEMS -- PROFESSOR SUPRIO RAY

Winter 2024

Comparing Relative Aim Control Schemes with Mouse and Controller with Aim Assistance Techniques and Gyro sensor

HUMAN-CENTERED INTERFACE DESIGN -- PROFESSOR DANIEL J. REA

Fall 2023

Implementation of Encoder-Decoder LSTM Network Towards Synthetic Summarized Titles From Indian News Reports

NATURAL LANGUAGES PROCESSING -- PROFESSOR PAUL COOK

Fall 2023

Likelihood Calculation for Student Success Based on Preprepared Dataset

MACHINE LEARNING AND DATA MINING -- PROFESSOR FRANCIS PALMA

Fall 2023

Learning Hand-Written Digit Patterns Using Robotic Arms (Bachelor Thesis Project) [\[more info\]](#)

SUPERVISOR: PROFESSOR ARMIN SALIMI-BADR / REFEREE: PROFESSOR YASER SHEKOFTEH

Summer 2022

Heater/Cooler Control System (Course Project)

EMBEDDED AND REAL-TIME SYSTEMS -- PROFESSOR SEYED-HOSEIN ATTARZADEH-NIAKI

Fall 2021

Classification of Different Car Brand Models (Course Project)

FUNDAMENTALS OF COMPUTATIONAL INTELLIGENCE -- PROFESSOR HAMED MALEK

Fall 2021

Simple Bitcoin Estimator Using Regression (Course Project)

FUNDAMENTALS OF COMPUTATIONAL INTELLIGENCE -- PROFESSOR HAMED MALEK

Fall 2021

Survivability Likelihood of Titanic Passengers Data Analysis (Course Project)

FUNDAMENTALS OF COMPUTATIONAL INTELLIGENCE -- PROFESSOR HAMED MALEK

Fall 2021

E-Puck Robot Wall Following and Obstacle Avoidance (Course Project)

PRINCIPLES OF ROBOTICS -- PROFESSOR ARMIN SALIMI-BADR

Spring 2021

Analysis and Optimization of the Shazam Algorithm (Course Project)

MATLAB PROGRAMMING WORKSHOP -- PROFESSOR YASER SHEKOFTEH

Fall 2020

A Clone of Skype's Background Blurring on Webcams (Course Project)

COMPUTER VISION -- PROFESSOR ALIREZA TALEBPOUR

Fall 2020

An Implementation of Decaf Compiler (Course Project)

COMPILER DESIGN -- PROFESSOR MOHAMMAD REZA BAHRAMI

Fall 2020

Automated Scheduling and Course Selection for Students (Course Project)

ARTIFICIAL INTELLIGENCE -- PROFESSOR MEHRNOUSH SHAMSFARD

Fall 2019

Eight Puzzle Platform and Solver (Course Project)

ARTIFICIAL INTELLIGENCE -- PROFESSOR MEHRNOUSH SHAMSFARD

Fall 2019

References

Available upon request