

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 ASSISTANT

UNB, Fredericton, Canada

September 2023 - Present

Developed teleoperation interfaces and network automation in Python3 with ROS, Tkinter.
Emphasis on software design (UI/UX, data collection) and automation workflows.

Robotics Laboratory
RESEARCH ASSOCIATE

SBU, Tehran, Iran

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

Human-Robot Interaction Laboratory
RESEARCH ASSOCIATE

UNB, Fredericton, Canada

May - September 2024

Technical Lead, co-author, designer, and conductor of the studies of underlying unconscious biases through interactions via avatars and teleoperated robots, in a professional setting.

Introduction to Game Development
TEACHING ASSISTANT

UNB, Fredericton, Canada

January 2024 - April 2024

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

Introduction to Robotics
INSTRUCTOR

SBU, Tehran, Iran

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

Concealand Game Studio
GAME DEVELOPER INTERN

SBU, Tehran, Iran

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, using the C# language.

Introduction to Algorithms Design
TEACHING ASSISTANT

SBU, Tehran, Iran

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
INSTRUCTOR

SBU, Tehran, Iran

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, using C++ and Python

NAO Research and Development Group
ROBOTICS ENGINEER INTERN

SBU, Tehran, Iran

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, architectures and packaging.

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

Granted Facilities from the National Elites Foundation, Iran

AS A WINNER OF AN ELITE COMPETITIVE EVENT (ROBOCUP IRANOPEN2023)

Summer - 2024

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, Javascript, C/C++, Java, C# **Frameworks :** Node.JS, React, Bootstrap, PyTorch, Tensorflow **Databases :** SQL, PostgreSQL, Pandas, Redis, Apache Hive, Apache Hadoop **Operating Systems :** Windows, Ubuntu, Raspbian **Misc. :** GIT, Docker, Robot Operating System (ROS)

Languages

• **English :** Fluent (IELTS 7.5)

• **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

R3CESBU Soccer Simulation 2D Team Description Paper 2023 [\[more info\]](#)

TEAM DESCRIPTION PAPER FOR ROBOCUP 2023

27 Nov 2023

Independent Projects

- A Serious VR Game to Overcome Arachnophobia, Using Unity C# and MetaQuest3
- [\[github\]](#) • A Clone of Feed and Grow Game, Using Unity C#
- An Implementation of a 2D Soccer Platform, and NEAT Algorithm to Train AI, Using Unity C#
- A Clone of Hollow Knight Game, Using Unity C#
- Intelligent Agent Tic-Tac-Toe Player, Using Java
- A Clone of Stick Hero Game, Using C++, SDL Library
- Spaceship Adventure Game, Using Unity C#

Curricular Projects

- [\[github\]](#) • Implementation and Analysis of Binary Index Trees for Historical Blockchain Databases, Using Java
- Comparing Relative Aim Control Schemes with Aim Assistance Techniques and GyroSensor, Using Unity C#
- Heater/Cooler with Energy Consumption Modeling and Optimization Control System, Using Matlab
- [\[github\]](#) • Classification of Different Car Brand Models, Data Collection via Webscraping Using Python
- [\[github\]](#) • E-Puck Robot Wall Following and Obstacle Avoidance, Using Webots C++
- Analysis and Optimization of the Shazam Algorithm, Using Matlab
- [\[github\]](#) • A Complete Implementation of Decaf Compiler, Using Java
- [\[github\]](#) • A Clone of Skype's Background Blurring on Webcams, Using Python OpenCV2
- [\[github\]](#) • Parham Food: A Functioning Online Ordering Web Application, Using Bootstrap, REACT, and GoLang
- [\[github\]](#) • Reactive Calculator Using React Framework, Using REACT
- Automated Scheduling and Course Selection for Students, Using Java
- [\[github\]](#) • Eight Puzzle AI Solver Using BFS, DFS, A*, and IDA*, Using Java
- Wall Following and Path Finding Using BUG1 and BUG2 Algorithms for E-Puck Robot in Webots Simulator, Using Webots C++
- [\[github\]](#) • Multi-player Chess Platform Using JavaFX
- A Clone of Doodle Jump Using C++ SDL Library

References

Available upon request