

# Arya Parvizi

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Born on August 7th 1998 in Shiraz, Gender: Male, Marital status: Single

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## Work Experience

### Concealand Game Studio

Tehran, Iran

#### GAME DEVELOPER INTERN

February 2023 - April 2023

Procedural Content Generator (Procedural Animation for a Humanoid Character).

Worked with Unity3D IK frameworks and animation rigging package.

Getting familiar with Unity ML model training system.

Researched the applications of Reinforcement Learning, Imitation Learning, Curriculum Learning in the humanoid animation of Computer Graphics and Robotics subjects.

### NAO Research and Development Group

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 Maze Solving, Obstacle avoidance, and Navigation algorithms 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.

## Education

### Master of Computer Science

Fredericton, NB, Canada

#### UNIVERSITY OF NEW BRUNSWICK

2023 - Present

GPA: 3.9/4.3

### Bachelor of Computer Engineering

Tehran, Iran

#### SHAHID BEHESHTI UNIVERSITY

2017 - 2022

GPA: 3.09/4 (15.48/20), GPA last two years: 3.07/4 (15.36/20)

## Honors and Awards

### 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

## Skills

- **Programming Languages** : Python, C/C++, R, Javascript, Java
- **Frameworks and libraries** : Keras/Tensorflow, OpenCV, Scikit-learn, Seaborn, Pandas, Node.JS, React
- **Databases** : SQL
- **Engines and Simulators** : Webots Simulator, Unity Game Engine, Robocup Soccer Simulator, Gazebo Robot Simulator, OpenAI Gym
- **Industry knowledge** : Computer Vision, Image Processing, Signal Processing, Machine Learning, Artificial Neural Networks, Convolutional Neural Networks, Recurrent Neural Networks, Reinforcement Learning, Simultaneous Localization and Mapping, Planning, Visual SLAM, Optimal Control, Evolutionary Algorithms
- **Operating Systems** : Windows, Ubuntu, Raspbian
- **Miscellaneous** : Robot Operating System(ROS), GIT, LaTeX

## Languages

- **Persian** : Native
- **Japanese** : Intermediate
- **English** : Fluent (IELTS scores: Listening: 8, Reading: 9, Writing: 6.5, Speaking: 7, Overall Bandscore: 7.5)

## Educational Experience

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### • Research Assistant

HUMAN-ROBOT INTERACTION LABORATORY, COMPUTER SCIENCE AND ENGINEERING FACULTY

September 2023 - Present

Under Supervision of Professor Daniel Rea

### • Laboratory Member (Researcher, Co-Manager)

ROBOTICS LABORATORY, COMPUTER SCIENCE AND ENGINEERING FACULTY

Summer 2021 - Present

Under Supervision of Professor Armin Salimi-Badr

### • Teaching Assistant

INTRODUCTION TO ALGORITHMS DESIGN

Fall 2022

Instructed by Professor Ramak Ghavamizadeh

### • Instructor

INTRODUCTION TO ROBOTICS

Summer 2022

Robotics Laboratory, Computer Science and Engineering Faculty

### • Teaching Assistant

DIGITAL LOGIC CIRCUITS

Spring 2019

Instructed by Professor Hamidreza Mahdiani

## Publications

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

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

27 Nov 2023

[\[more info\]](#)

## Projects (Chronological Order)

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### Learning Hand-Written Digit Patterns Using Robotic Arms (Bachelor Thesis Project)

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

Summer 2022

[\[more info\]](#)

### Heater/Cooler Control System (Course Project)

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

Fall 2021

### Classification of Different Car Brand Models (Course Project)

FUNDAMENTALS OF COMPUTATIONAL INTELLIGENCE INSTRUCTED BY PROFESSOR HAMED MALEK

Fall 2021

### Simple Bitcoin Estimator Using Regression (Course Project)

FUNDAMENTALS OF COMPUTATIONAL INTELLIGENCE INSTRUCTED BY PROFESSOR HAMED MALEK

Fall 2021

### Survivability Likelihood of Titanic Passengers Data Analysis (Course Project)

FUNDAMENTALS OF COMPUTATIONAL INTELLIGENCE INSTRUCTED BY PROFESSOR HAMED MALEK

Fall 2021

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

PRINCIPLES OF ROBOTICS INSTRUCTED BY PROFESSOR ARMIN SALIMI-BADR

Spring 2021

### Analysis and Optimization of the Shazam Algorithm (Course Project)

MATLAB PROGRAMMING WORKSHOP INSTRUCTED BY PROFESSOR YASER SHEKOFTEH

Fall 2020

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

COMPUTER VISION INSTRUCTED BY PROFESSOR ALIREZA TALEBPOUR

Fall 2020

### An Implementation of Decaf Compiler (Course Project)

COMPILER DESIGN INSTRUCTED BY PROFESSOR MOHAMMAD REZA BAHRAMI

Fall 2020

### Automated Scheduling and Course Selection for Students (Course Project)

ARTIFICIAL INTELLIGENCE INSTRUCTED BY PROFESSOR MEHRNOUSH SHAMSFARD

Fall 2019

### Eight Puzzle Platform and Solver (Course Project)

ARTIFICIAL INTELLIGENCE INSTRUCTED BY PROFESSOR MEHRNOUSH SHAMSFARD

Fall 2019