

NADER ZARE

Full-Stack web developer, Machine Learning and Robotic Researcher, Python and C++ Programmer

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EXPERIENCE

Full-Stack Web developer of Ballast System
Institute for Big Data Analytics, Dalhousie University

📅 Sep 2019 – Current

📍 Halifax, Canada

- Developed back-end and front-end of the website powered by Django and MongoDB.
- Implemented an email crawling module to process received emails, download files, parse PDF forms, standardize data, store standardized data in a database, and respond to emails.
- Created web interfaces to help users in filtering queries.

Project Manager of Ballast System
Institute for Big Data Analytics, Dalhousie University

📅 Sep 2019 – Current

📍 Halifax, Canada

- Managed task assignments to team members and collaborated with them throughout the development of the project.
- Engaged with research collaborators at the Department of Fisheries and Oceans Canada (DFO).
- Coordinated and assisted team members.

Senior Research Assistant, Robotic and Machine Learning

Institute for Big Data Analytics, Dalhousie University

📅 Sep 2019 – Current

📍 Halifax, Canada

- Developed a vessel navigation framework for training autonomous vessel navigation and trained an autonomous vessel with Deep Reinforcement Learning.
- Developed CYRUS, a 2D soccer simulation team, and employed various novel machine learning methods to solve the multi-agent learning problem.

C++ and Python Developer

Peykasa Message ware

📅 Sep 2017 – Mar 2019

📍 Tehran, Iran

- Developed and designed a C++ component to manage and monitor SMS messages among GSM network providers.
- Redesigned and developed an application with components for parsing, creating flow messages, and storing flows on Elastic-Search.

ACHIEVEMENTS

- My team, CYRUS, won first place in the RoboCup2021 competition in the Soccer Simulation 2D League.
- Won second place in the RC2018 and RC2022 in soccer simulation 2D League.
- Member of RoboCup soccer simulation 2D League committee for 6 years.

EDUCATION

B.S in INFORMATION TECHNOLOGY
ENGINEERING

Shiraz University of Technology

📅 Sep 2010 – Jun 2014

M.S in ARTIFICIAL INTELLIGENT AND
ROBOTIC

khajeh Nasir Toosi University of technology

📅 Sep 2015 – Aug 2018

PROJECTS

Ballast Water Report System

- BWRFIS is a website developed at Dalhousie University for Transport Canada and Fisheries and Oceans Canada. I was the manager and full-stack developer of this project. As part of this project, I was responsible for managing and assigning tasks to team members and working with the Django framework and MongoDB database.

SS2D Tournament Runner

- This project is a 2D soccer simulation tournament management system that utilizes Django, SQLite, and Docker. With the website, teams can upload and test their teams, and executive members can use scripts powered by Docker to manage the tournament.

CYRUS Simulation Robotic Team

- I have lead CYRUS RoboCup soccer simulation 2D team since 11 years ago. "CYRUS" is one of the world's most powerful soccer simulation 2D teams. I have implemented and designed many artificial intelligence algorithms and strategies for our CYRUS team.

PYRUS2D base code

- PYRUS2D is an open-source Python base code for soccer simulation 2D robot leagues. This base code is this robotic league's first complete Python base code. It includes more than 20k lines of code. Since the beginning of the project, I have led the project and been the main developer.

Reinforcement Vessel Navigator

- I designed and developed a Python-based vessel navigation framework based on the real world's AIS data. In this project, I trained an autonomous vessel using deep reinforcement learning to navigate through real-world maps.

TECHNICAL SKILLS

- Python, C++, HTML, CSS, JavaScript
- Django, MongoDB, Docker, Git, Ubuntu, Redis
- Deep Learning, Reinforcement Learning, Keras, TensorFlow, NumPy, Pandas, scikit-learn