Shayan KHORSANDI

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in linkedin.com/in/sh-khorsandi github.com/abradat ℹ Updated : May 2022

🔗 abradat.github.io/portfolio

EDUCATION

Now **Sep 2021**	Master's, DIGITAL MEDIA Centre for Digital Media, Canada GPA : 4.0/4.33 ❯ The MDM program is accredited and awarded by four leading Canadian post-secondary institutions : UBC, SFU, ECUAD, BCIT.
March 2020 **Sep 2015**	B.Sc., COMPUTER ENGINEERING Iran University of Science and Technology, Iran. GPA : 17.32/20 (3.72/4.0) ❯ Ranked 3rd among all Iranian universities. [a] a. Based on The QS World University Rankings 2020

WORK EXPERIENCE

February 2022 **Present**	Application Developer, DYNE TECHNOLOGIES, Vancouver, Canada ❯ Mobile application development using **Flutter** framework for iOS and Android platforms. ❯ Redesigned and standardized REST API endpoints on the server side for increasing performance and readability.
August 2021 **May 2018**	Software Engineer, INFORMATICS SERVICES CORPORATION (ISC), Tehran, Iran ❯ Development of core services of the **Central Bank of Iran (CBI)**. Member of Central Securities Depository (CSD) and Iranian Instant Payment (IIP) projects. ❯ Back-End development mainly via **Spring Boot** and **Spring** frameworks. Developed services based on **microservice** and **monolithic** architectures. ❯ Implemented **microservice patterns** including : Saga Transaction pattern, API Gateway using Spring Cloud Gateway and Zuul, Redis Sentinel for high-availability, and messaging/streaming using Apache Kafka and IBM MQ for the CSD project. ❯ Developed Socket.IO client based on **Spring Boot** for standard communication between customer banks and the central bank of Iran for the IIP project. ❯ Dashboard monitoring and management applications development via **Angular** framework. Developed a terminal for real-time communication between angular application and server's command line using WebSocket and Xterm.js for the IIP project. ❯ Containerized applications using **Docker** and used Jenkins for **CI/CD**.

RESEARCH AND TEACHING EXPERIENCE

Feb 2020 **June 2016**	Research Assistant, BIO-INSPIRED SYSTEM DESIGN LAB Supervisor : Prof. Soroush Sadeghnejad Amirkabir University of Technology ❯ Research and Development on **humanoid robots** and Iranian standard-platform robot (KIARASH). ❯ Design and Implementation a method for predicting rolling ball's trajectory based on **K-NN regression** and **Auto Regression** for Robocup's roll and kick challenge in real and **ROS simulator (Gazebo)** environments. ❯ Developed Motion Editor application for monitoring **Herkulex** servo motors and motion generation based on pre-defined sequences using **Python**, **PyQt**, and **Arduino**. ❯ Developed Walk Tuner and Offset Tuner applications for walking calibration based on **PyQt** and **Arduino**. ❯ Modulation, development, and code migration to the **ROS** platform.

June 2014 Oct 2013	Research Assistant, Robotics Lab Supervisor : Prof. Mohsen Bahrami Amirkabir University of Technology ❭ Research on **Q-Learning** method for humanoid robots ball catching approach. ❭ Implementation of stand-up motion for teen-size humanoid robot based on **ROS** platform.
Spring 2019	Teaching Assistant, Operating Systems Course Instructor : Prof. Reza Entezari Iran University of Science and Technology
Spring 2016	Teaching Assistant, Advanced Computer Programming Course Instructor : Prof. Adel Rahmani Iran University of Science and Technology
Fall 2016	Teaching Assistant, Foundations of Computer and Programming Course Instructor : Prof. Adel Rahmani Iran University of Science and Technology

Publications

2021   Y. Mirmohammad, Sh. Khorsandi, M. N. Shahsavari, B. Yazdankhoo, S. Sadeghnejad. "**Ball Path Prediction for Humanoid Robots : Combination of k-NN Regression and Autoregression Methods**", The International Robocup Symposium, 2021. (PDF 🅰)

2017   S. Ramezani, A. Setayeshi, N. Pourmohammadi, A. Arvand, P. Yarahmadi, F. Fallah, Sh. Khorsandi, S. Sadeghnejad. "**AUTMan Humanoid Kid Size Team Description Paper**". The International Robocup 2017 Humanoid Robot League, Nagoya, Japan. (PDF 🅰)

2014   M. Tamiz, E. Bararian, T. A. Shangari, M. Karimi, et al. "**AUT-UofMHumanoid TeenSize Team Description Paper**". The International Robocup 2014 Humanoid TeenSize Robot League, João Pessoa, Brazil. (PDF 🅰)

Honors and Awards

2018   **Technical Committee** Member of Humanoid Robots League, International AUTCup 2018, Tehran, Iran.

2017   **Ranked 3rd** in Humanoid TeenSize Soccer League as a member of AUTMan Team of Amirkabir University of Technology, International Robocup 2017, Nagoya, Japan.

2017   **Ranked 3rd** in Humanoid TeenSize Soccer League Technical Challenge as a member of AUTMan Team of Amirkabir University of Technology, International Robocup 2017, Nagoya, Japan.

2016   **Technical Committee** Member in Humanoid Robots League, International AUTCup 2016, Tehran, Iran.

2016   **Ranked 1st** in Humanoid Robots Olympics League as a member of AUTMan Team of Amirkabir University of Technology, International AUTCup 2016, Tehran, Iran.

2016   **Ranked 2nd** in Humanoid Robots Olympics League Technical Challenge as a member of AUTMan Team of Amirkabir University of Technology, International AUTCup 2016, Tehran, Iran.

2015   **Ranked the top 0.5%** among near 200,000 participants in the "National Universities Entrance Exam" in Mathematics & Physics (2015).

2014   **Ranked 1st** in Humanoid TeenSize Soccer League Technical Challenge as a member of AUT-UofM, Joint Team of Amirkabir University of Technology and University of Manitoba, International Robocup 2014, Joao Pessoa, Brazil.

2013   **Ranked 1st** in Humanoid Soccer League as a member of AUTMan Team of Amirkabir University of Technology, International AUTCup 2013, Tehran, Iran.

2012   **Ranked 2nd** in Urban Robots League as a member of High-Tech Team, International ARAIF 2012, Tehran, Iran.

Skills

Programming Language	**Proficient in :** Java, Python, C/C++, Typescript **Familiar with :** Go, Swift, Dart, JavaScript
Machine Learning	Tensorflow, Keras, Scikit-Learn
Framework	Spring Boot (Java), Spring (Java), Django (Python), Beego (Go), Angular, Flutter
DevOps	Docker, Kubernetes, Jenkins
Tools/Hardware	Apache Kafka, IBM MQ, Selenium, Redis, Arduino
Robotics	**Software Platform :** ROS **Robot Platform :** NAO, TurtleBot
Operating System	macOS, Linux, Windows
Platforms	AWS

Languages

English	**IELTS Academic : 7.5** (Listening : 7.5, Reading : 9, Writing : 6.5, Speaking : 6.5)
	GRE : Quantitative (168), Analytical Writing (4.0)
Persian (Farsi)	Native

Selected Work Projects

Central Securities Depository (CSD) V2   May 2020 - August 2021

A new version of Central Bank of Iran's CSD system. Implemented backend services with Spring Boot framework based on microservices architecture. Implemented a non-blocking API gateway using Spring Cloud Gateway and secured services with Keycloak. Designed and implemented a new management and monitoring dashboard with Angular framework.

`Java` `Typescript` `Spring Boot` `Spring Cloud Gateway` `Keycloak` `Angular` `Apache Kafka` `Docker`

Iranian Instant Payment (IIP)   August 2019 - August 2021

IIP is Central Bank of Iran's newest inter-bank payment system. IIP services are available all-around-the clock and should result in the immediate or close to immediate crediting of the Beneficiary's account. Implemented based on the microservices architecture.

`Java` `Typescript` `Spring Boot` `Spring Cloud Config` `Angular` `Xterm.js` `Socket.IO` `Secure-Shell` `Docker`

Central Securities Depository (CSD) V1   August 2018 - August 2019

Central Bank of Iran's service for providing inter-bank security market and communication with Tehran Exchange Market. Implemented based on microservice architecture using Spring Boot framework.

`Java` `Typescript` `Spring Boot` `Angular` `Apache Kafka` `IBM MQ` `Redis` `Docker` `Microservices`

∗∗*I am not able to provide the codes which I have develop at Informatics Services Corporation due to the policies.*

Selected Academic Projects

Reddit Analysis   Winter 2021

 github.com/abradat/reddit-analysis

An application for crawling subreddit posts from the Reddit website and analyzing their parameters and trends for comparing subreddits with each other.

`Python` `Scrapy` `Numpy` `Stanford CoreNLP` `Docker`

PS5 News Crawler   Fall 2020

 github.com/abradat/ps5-news

An application for crawling the latest news from CNN website and latest tweets about PS5 console. Tweets' sentiments are extracted for labeling in the angular application.

`Java` `Typescript` `Spring Boot` `Angular` `Selenium` `Stanford CoreNLP`

Linux Kernel Module   Fall 2019

 github.com/abradat/kernel-hook-module

Linux kernel module for hooking read and write system calls using ftrace and performing encrypt/decrypt actions with ROT13.

`C` `Linux` `Kernel Development` `ftrace` `ROT13`

Ball Trajectory Predictor   Summer 2019 - Fall 2019

 github.com/abradat/ball-trajectory-predictor

Implemented a rolling ball's trajectory predictor based on the combination of k-NN Regression and Autoregression methods. Data is captured in real and simulation environments based on ROS platform.

`Python` `Numpy` `ROS` `Gazebo`

NachOs Scheduler   Fall 2017

 github.com/abradat/Nachos_Operating_Systems_Course

Completing the implementation of NachOS schedulers (NachOS is an educational operating system.)

`C` `NachOs` `Process Scheduling`

∗*For a more comprehensive list of my projects please visit my [website](#) or [Github](#).*