# Shayan Khorsandi

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# EDUCATION

Apr 2023 Sep 2021	<ul> <li>Master of Digital Media,</li> <li>University of British Columbia, Centre for Digital Media, Canada</li> <li>Accredited and awarded by four Canadian post-secondary institutions</li> </ul>	GPA : 4.02/4.33 : <u>UBC, SFU, ECUAD, BCIT</u> .
Mar 2020 Sep 2015	<ul> <li>B.Sc., COMPUTER ENGINEERING</li> <li>Iran University of Science and Technology, Iran.</li> <li>Ranked 3<sup>rd</sup> among all Iranian universities.<sup>a</sup></li> <li>a. Based on The QS World University Rankings 2020</li> </ul>	GPA:17.32/20 (3.72/4.0)

# Work Experience

Apr 2023	Agile Developer Intern, SAP, Vancouver, Canada		
Sep 2022	<ul> <li>Implemented REST APIs for automating jobs using Spring Boot in feature flagging service (FFS).</li> <li>Implemented Jenkins pipelines for automating instance backups, managing other services' data, and compiling responses from instances across all regions, reducing 2+ days of manual work to under 15 minutes.</li> <li>Implemented unit tests using JUnit, Mockito, and Postman collections for automated API testing.</li> </ul>		
	<ul> <li>Implemented Jasmine unit tests for validating the submitted data from other services to FFS.</li> <li>Developed a Slack bot Integration with FFS for users to toggle features through Slack.</li> <li>Produced 10+ software documents, including elaborating on changes, deployment guidelines, and Slack integration.</li> </ul>		
May 2022 Feb 2022	<ul> <li>Application Developer, DYNE ТЕСНИОLOGIES, Vancouver, Canada</li> <li>Mobile application development using Flutter framework for iOS and Android platforms.</li> <li>Redesigned the mobile app's whole routing and dependency management to reduce memory usage.</li> <li>Implemented new features, including integration with Instagram and tutorial for onboarding users.</li> <li>Redesigned and standardized REST API endpoints on the server-side for increasing performance and readability.</li> </ul>		
Aug 2021 May 2018	<ul> <li>Software Engineer, INFORMATICS SERVICES CORPORATION (ISC), Tehran, Iran</li> <li>Developed backend services based on microservices architecture through Spring Boot and Spring frameworks.</li> <li>Implemented microservices patterns, including Saga Transaction pattern, API Gateway using Spring Cloud Gateway and Zuul, securing services with Keycloak based on OpenID Connect, messaging/streaming using Apache Kafka and IBM MQ, and distributed log tracing using Zipkin and ELK stack.</li> <li>Developed a Socket.IO client based on Spring Boot for communication between customer banks and CBI.</li> <li>Developed dashboard monitoring and management applications via Angular framework. Implemented a terminal for real-time communication between an Angular application and the server's command line using WebSocket and Xterm.js.</li> <li>Containerized applications using Docker and used Jenkins for CI/CD.</li> </ul>		

# Research and Teaching Experience

Vancouver, Canada

Feb 2020 June 2016	<ul> <li>Research Assistant, BIO-INSPIRED SYSTEM DESIGN LAB</li> <li>Supervisor : Prof. Soroush Sadeghnejad Amirkabir University of Technology</li> <li>Researched and Developed on humanoid robots and Iranian standard-platform robot (KIARASH).</li> <li>Designed and implemented 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.</li> <li>Developed Motion Editor application for monitoring Herkulex servo motors and motion generation based on pre-defined sequences using Python, PyQt, and Arduino.</li> <li>Developed Walk Tuner and Offset Tuner applications for walking calibration based on PyQt and Arduino.</li> <li>Modulation, development, and code migration to the ROS platform.</li> </ul>	
June 2014 Oct 2013	<ul> <li>Research Assistant, ROBOTICS LAB</li> <li>Supervisor : Prof. Mohsen Bahrami</li> <li>Research on Q-Learning method for humanoid robots ba</li> <li>Implementation of stand-up motion for teen-size human</li> </ul>	Amirkabir University of Technology Ill catching approach. oid robot based on <b>ROS</b> platform.
Spring 2019	Teaching Assistant, OPERATING SYSTEMS COURSE Instructor : Prof. Reza Entezari	Iran University of Science and Technology
Spring 2016	Teaching Assistant, Advanced Сомритек Programming Cou Instructor : Prof. Adel Rahmani	IRSE Iran University of Science and Technology
Fall 2016	<b>Teaching Assistant, FOUNDATIONS OF COMPUTER AND PROGRA</b> Instructor : Prof. Adel Rahmani	ммима Course 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

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2018	Technical Committee Member of Humanoid Robots League, International AUTCup 2018, Tehran, Iran.
2017	Ranked 3 <sup>rd</sup> in Humanoid TeenSize Soccer League as a member of AUTMan Team of Amirkabir University
	of Technology, International Robocup 2017, Nagoya, Japan.
2017	Ranked 3 <sup>rd</sup> 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 1 <sup>st</sup> in Humanoid Robots Olympics League as a member of AUTMan Team of Amirkabir University
	of Technology, International AUTCup 2016, Tehran, Iran.
2016	Ranked 2 <sup>nd</sup> 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 1 <sup>st</sup> 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 1 <sup>st</sup> in Humanoid Soccer League as a member of AUTMan Team of Amirkabir University of Techno-
	logy, International AUTCup 2013, Tehran, Iran.
2012	Ranked 2 <sup>na</sup> in Urban Robots League as a member of High-Tech Team, International ARAIF 2012, Tehran,
	Iran.

### Skills

Programming Language	Proficient in : Java, Python, Typescript, Dart
	Familiar with : C/C++, Go, Swift, JavaScript
Machine Learning	Tensorflow, Keras, Scikit-Learn
Framework	Spring Boot (Java), Spring (Java), Angular, Flutter, JUnit, Jasmine, Node.js
DevOps	Docker, Kubernetes, Jenkins
Tools	Git, SVN, Maven, Apache Kafka, IBM MQ, Selenium, Redis, ELK
Database	Oracle, MySQL, PostgreSQL
Platforms	AWS

# SELECTED WORK PROJECTS

#### **CENTRAL SECURITIES DEPOSITORY (CSD) V2**

The newest version of CSD service. 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 the Angular framework.

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

#### IRANIAN INSTANT PAYMENT (IIP)

IIP is the newest Iranian 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

# SELECTED ACADEMIC PROJECTS

#### EcoGo

#### Documentation 🖸 github.com/abradat/ecogo-mobile-app

### EcoGo is a mobile application for iOS and Android platforms intending to change people's walking behavior by engaging them in a gamified experience.

Flutter Dart Google Maps API iOS Android

#### **REDDIT ANALYSIS**

**Q** github.com/abradat/reddit-analysis Application for crawling subreddit posts from Reddit website using Scrapy and analyzing them using SciPy and Stanford CoreNLP.

Python Scrapy Numpy Stanford CoreNLP Docker

#### **NEWS CRAWLER**

#### **Q** github.com/abradat/ps5-news

Web application for crawling the latest news from CNN website through Selenium and latest tweets through Twitter API about PS5 console. Tweets' sentiments are extracted for labeling in the angular application.

Java Typescript Spring Boot Angular Selenium Stanford CoreNLP

#### LINUX KERNEL MODULE

**Q** 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**

**Q** 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

#### **Q** github.com/abradat/Nachos\_Operating\_Systems\_Course

Completed 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.

MAY 2020 - AUGUST 2021

AUGUST 2019 - AUGUST 2021

FALL 2021

WINTER 2021

**FALL 2020** 

FALL 2019

SUMMER 2019 - FALL 2019

FALL 2017

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