Masoud **Bashiri**

Software Engineer · Data Scientist · Machine Learning Engineer

Charlottesville, Virginia

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Skills

Programming	Java, Python, R, C/C++, C#
Web	Javascript, Django, Node.js, Angular, HTML5, CSS, PHP
Database	MySQL, PostgreSQL, MongoDB, Redis, HBase, Hazelcast
Technologies & Frameworks	Tensorflow, Robot Operating System, Spring, Hadoop, JSF, Hibernate, Maven, Git, svn
Applications	PTV VISSIM, PTV Vistro, NetLogo, Matlab, Rviz, Gazebo
Theory	Machine Learning, Control Theory, Algorithm Design, Deep Learning, Reinforcement Learning

Work Experience

University of Virginia
Charlottesville, VA

Researcher (Machine Learning, Intelligent Transportation Systems)
August 2014 - Current

- Design and Implementation of a microscopic traffic simulator in Matlab
- Building and testing of three F1/10 autonomous vehicles
- Design and Development of a Web Application for control of the Baxter Robot

Yooz.ir Search Engine
Tehran, Iran

Software Architect and JAVA EE Developer
March 2012 - August 2014

- Design and Development of a Search Engine Evaluation System
- In charge of the design and implementation of the evaluation/tagging system from the persistence layer (MySQL) to web interface in JAVEE/JSF using PrimeFaces ui framework.
- Hired 15 non-experts as test users and supervised their work through a web interface designed to log all activities of the taggers.
- Successfully implemented an evaluation system to compare Yooz search results with that of Google and Bing.
- The system helped increase the search engine's accuracy and precision by 10%.

Payam Nour University of Pardis
Tehran, Iran

Lecturer
January 2012 - July 2012

- Courses Taught: Computer Architecture, Theory of Formal Languages and Automata

Payam Nour University of Zanjan
Zanjan, Iran

Lecturer
February 2011 - September 2011

- Courses Taught: Computer Architecture, Fundamentals of Computer Systems

Iran Power Research Center
Tehran, Iran

Software Developer and Researcher
October 2008 - February 2009

- Developed a user interface in C#.net to monitor lamp posts

Education

University of Virginia
Charlottesville, VA

Ph.D.
August 2014 - May 2020

- Research Area: Intelligent Transportation Systems, Machine Learning, Data Science, Natural Language Processing, Robotics
- Dissertation: Data-driven Traffic Management and Traffic State Estimation
- Coursework: Data Mining, Control Systems, Optimization, Agent Based Modeling, Cognitive Engineering, Cyber Security

Amirkabir University of Technology

Tehran, Iran

Master of Science in Computer Science

June 2011

- Thesis: A novel evolutionary algorithm for simultaneous localization and mapping
- Coursework: Artificial Neural Networks, Advanced Machine Learning, Robotics, Evolutionary Algorithms, Wireless Networks, Computer Vision, Image Processing

University of Isfahan

Isfahan, Iran

Bachelor of Science in Computer Engineering

September 2008

- Final Project: Mobile robot path planning in a multi-agent system
- Coursework: Programming, Advanced Programming, Data Structure, Database Design, Algorithms, Theory of Programming Languages, VLSI, Microprocessors

Academic Experience

The Practice of Data Science

University of Virginia

Teaching Assistant & Co-lecturer

August 2019 - December 2019

- Supervising student Projects
- instructing TA Sessions
- Grading weekly assignments and final project

Autonomous Mobile Robots

University of Virginia

Teaching Assistant & Co-lecturer

Fall 2016, Fall 2017, Fall 2018

- Design and Implementation of robotic algorithms on the Turtlebot and the Crazieflie platforms.
- co-instructing Lab sessions
- Grading weekly assignments and final project

Data Science Sessions

University of Virginia

Teaching Assistant

Spring 2016, Spring 2017

- Supervising student projects on various topics in Data Science
- instructing TA Sessions
- Grading weekly assignments and final project

Data and Information Engineering

University of Virginia

Teaching Assistant

Spring 2015

- Supervising student projects on various topics in Data Science
- Instructing TA Sessions
- Designed weekly assignments and final project
- Grading weekly assignments

Selected Publication

Hybrid adaptive differential evolution for mobile robot localization

Intelligent Service Robotics

Masoud Bashiri, Hedayat Vatankhah, and Saeed Shiry Ghidary

5, no. 2 (2012): 99-107

platoon-based intersection management system for autonomous vehicles

Intelligent Vehicles Symposium (IV)

Bashiri, Masoud, and Cody H. Fleming

2017

Abstractions for design-by-humans of heterogeneous behaviors

Dance Notations and Robot Motion (pp. 237-262)

LaViers, A., Bai, L., **Bashiri, M.**, Heddy, G., & Sheng, Y.

2016