Masoud "Ashkan" Bashiri

CONTACT INFORMATION

Systems and Information Engineering Department
University of Virginia
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My Homepage
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CITIZENSHIP IRAN

INTERESTS Machine Learning, Software Development, Web Development, Deep Neural Networks, Robotics, Intelligent Transportation Systems, Design and Analysis of Algorithms

TECHNICAL SKILLS

Programming: Python, Java, C++, C#, R, UNIX shell scripting, MySQL.
Web Development: JavaScript, PHP, HTML/(S)CSS, JavaServerFaces, Angular, Node.js
Technologies & Frameworks: ROS, Spring, JSF, Hibernate, Primefaces, Django, Maven, Git.
Applications: NetLogo, TEX, LATEX, BIBTEX.
Operating Systems: Microsoft Windows 10/8/7/Vista/XP/2000, Linux (Fedora, Ubuntu) and Mac.

WORK EXPERIENCE

Yooz.ir Search Engine, Tehran, Iran

JavaEE Developer and Researcher **June 2012 to August 2014**

- Head of the Evaluation Team (March 2013 - July 2014)
  - Design and Development of a Search Engine Evaluation System
  - Involved in the design and implementation of the system from the persistence layer design (MySQL) to the web ui in JAVE/JSF using PrimeFaces ui framework.
- Member of the Ranker Team (June 2012 - July 2014)
  - Design and Development of a Hadoop/RPC Service for Redis In-Memory Datastore, to store and retrieve search data
  - Developing MapReduce Based Algorithms for Several Computations of the Ranker Component

Power Research Center of Iran, Tehran, Iran

Developer And Researcher **October 2008 to February 2009**

- Member of the Database Team (MySQL)

Education

University of Virginia

Ph.D., Systems Engineering, August 2014 - May 2020 (Expected Graduation)

- Course Works: Optimization I, Linear Systems, Introduction to Systems Engineering, Cognitive Systems Engineering, Agent Based Modeling, Data Mining

Amirkabir University of Technology, Tehran, Iran

M.S., Computer Engineering, Sep 2008 - July 2011

- Thesis title: A Modified Evolutionary Algorithm for Simultaneous Localization and Mapping Problem
- Advisor: Dr Saeed Shiry Ghidary
- Area of Study: Artificial Intelligence
- Course Works: Robotics, Neural Networks, Advanced Artificial Intelligence (top grade), Computer Vision, Machine Learning, Evolutionary Computation, Wireless Networks, Image Processing

University of Isfahan, Isfahan, Iran

B.S., Computer Engineering, Sep 2004 - Sep 2008

- Thesis title: Controlling Agents' Spatial Locations in A Multi-Agent System
- Advisor: Dr Kamal Jamshidi
- Area of Study: Hardware Engineering

National Organization of Exceptionally Talented, Ilam, Iran

High School Diploma, Mathematics and Physics, Sep 2000 - Sep 2004

Language Skills

Persian(Native), English(Fluent)

- **TOEFL(iBT):** Reading(29), Listening(28), Speaking(27), Writing(24), Total(108)
- **GRE (general):** Quantitative(164), Verbal(151), Writing(3)

Academic Experience

University of Virginia

Teaching Assistant **Fall 2019**

- The Practice of Data Science, Prof. Abigail Flower.
- Supervising student projects
- Instructing TA sessions
- Grading weekly assignments and final project

Teaching Assistant & Co-Lecturer **Fall 2016, Fall 2017, Fall 2018**

- Autonomous Mobile Robots, Prof. Nicola Bezzo.
- Design and Implementation of robotic algorithms on the Turtlebot and the Crazieflie platforms.
- co-instructing Lab sessions
- Grading weekly assignments and final project

Teaching Assistant **Spring 2016, Spring 2017**

- Data Science Sessions, Prof. Casey Lichtendahl.
- Supervising student projects on various topics in Data Science
- Instructing TA sessions
- Grading weekly assignments and final project

Teaching Assistant **January 2015 to May 2015**

- Data and Information Engineering, Prof. Amy LaViers.
- Help in designing the weekly assignments, Grading weekly assignments and holding office hours.

Teaching Assistant **September 2014 to January 2015**

- Introduction to Systems Engineering, Prof. Michael Smith.
- Grading weekly assignments and holding office hours.

University of Isfahan, Isfahan, Iran

Teaching Assistant **September 2006 to September 2007**

- Microprocessor, Prof. Kamal Jamshidi.

Teaching Assistant **February 2008 to July 2008**

- Advanced Programming, Prof. Amir Hassan Monadjemi.
- Graded daily assignments and final project.

Zanjan Payam Nour University, Zanjan, Iran

Lecturer **February 2011 to September 2011**

- Teaching: Computer Architecture, Fundamentals of Computer Systems.
- Project Advisor for three B.S. students.

Payam Nour University of Pardis, Pardis, Tehran, Iran

Lecturer **February 2012 to July 2012**

- Teaching: Computer Architecture, Theory of Formal Languages and Automata.
- Project Advisor for three B.S. students.

Selected Academic Projects

- **Graduate Projects**
  - **Design and Implementation of a microscopic traffic simulator in Matlab**
    CSL LAB, University of Virginia, Prof. Cody Fleming, May 2017-Current.
  - **Building and testing of three F1/10 autonomous vehicles**
    CSL LAB, University of Virginia, Prof. Cody Fleming, May 2017-August 2017.

- **Design and Development of a Web Application for control of the Baxter Robot**
  RAD LAB, University of Virginia, November 2014-May 2015.

- **Implementing a Digital Image Processing Toolbox in MATLAB** (Which included Noise Reduction, Spatial and Frequency Domain Filtering, Frequency Domain Operations, Histogram Operations and Spatial Transformations)
  Image Processing course, Amirkabir University of Technology, Spring 2009.

- **Implementing a Neural Networks Toolbox for Function Approximation and Data Classification in MATLAB** (including MLNN, Hopfield, SOM, RBF and GMDH)
  Neural Networks course, Amirkabir University of Technology, Fall 2008.

- **Implementing an Evolutionary Toolbox in MATLAB** (including GA, ES, EA, DE, PSO)
  Evolutionary Computation course, Amirkabir University of Technology, Fall 2008.

- **Undergraduate Projects**
  - **Design and Implementation of a Multi Agent System Comprised of three Mobile Robots,** University of Isfahan, March-September 2008
    Advisor: Dr Kamal Jamshidi

Awards & Honors

National Organization for Educational Testing

- Ranked 26th in Nationwide Entrance Exam for PhD Program, June 2012
- Among top 1.0% in Nationwide Entrance Exam for Master's Degree Program, September 2008
- Among top 2.0% in Nationwide Entrance Exam for Iranian universities, September 2003
- Admitted for NODET high school, September 2000

Journal Publications

- **Masoud Bashiri**, Hedayat Vatankhah, and Saeed Shiry Ghidary. "Hybrid adaptive differential evolution for mobile robot localization." Intelligent Service Robotics 5, no. 2 (2012): 99-107.

Conference Publications

- **Bashiri, Masoud**, Hassan Jafarzadeh, and Cody Fleming. "PAIM: Platoon-based Autonomous Intersection Management." arXiv preprint arXiv:1809.06956 (2018).

- **Bashiri, Masoud**, and Cody H. Fleming. "A platoon-based intersection management system for autonomous vehicles." Intelligent Vehicles Symposium (IV),

2017 IEEE. IEEE, 2017.

- A.Sharifi, V. Noroozi, **M.Bashiri**, A. Hashemi and M. Meybodi, Two Phased Cellular PSO: A New Collaborative Cellular Algorithm for Optimization in Dynamic Environments, IEEE Congress on Evolutionary Computation, 2012.

- **Bashiri, M.**, S.S. Ghidary, 2010. Adaptive Differential Evolution: an Adaptive Strategy for Tuning of the Mutation Parameter. Proceedings of the 2010 Computer Society of Iran Computer Conference (CSICC2010).

Book Chapters

- LaViers, A., Bai, L., **Bashiri, M.**, Heddy, G., & Sheng, Y. (2016). Abstractions for design-by-humans of heterogeneous behaviors. In Dance Notations and Robot Motion (pp. 237-262). Springer, Cham.

Journal & Conference Reviewer Experiences

- Manuscript review for The 21st IEEE International Conference on Intelligent Transportation Systems
- Manuscript review for Applied Soft Computing Journal, 21 August 2013.
- Manuscript review for Intelligent Service Robotics, 5 July 2013.

References

Cody Fleming
- Assistant Professor
- University of Virginia
- Charlottesville,VA, US
- E-mail: cf5eg@virginia.edu

Amy LaViers
- Assistant Professor
- University of Illinois at Urbana Champaign
- Illinois, United States
- E-mail: alaviers@illinois.edu

Saeed Shiry Ghidary
- Assistant Professor
- Amirkabir University of Technology
- Tehran, Iran
- E-mail: shiry@aut.ac.ir

Nicola Bezzo
- Assistant Professor
- University of Virginia
- Charlottesville,VA, US
- E-mail: nbezzo@virginia.edu