

# ERIC (EHSAN) QASEMI

[qasemi@wisc.edu](mailto:qasemi@wisc.edu) – [qasemi.ehs@gmail.com](mailto:qasemi.ehs@gmail.com)

215 N Frances - Madison, WI 53703

WEBSITE: [ehsanqasemi.com](http://ehsanqasemi.com)

Tel: +1-608-571-8947

## OBJECTIVES

Dynamic **Software Engineer** with strong **mathematical** background, focused on **Machine learning and data science**. skilled at developing complex solutions with high performance and low cost. Experienced in working and managing teams with diverse cultures and skills, seeking **summer internship for summer 2018**.

## EDUCATION

**MSC. IN COMPUTER SCIENCE(GPA 3.53/4)** : University of Wisconsin at Madison, (**Graduate: Dec 2018**)

**MSC. IN COMPUTER ENGINEERING (GPA 3.53/4)** : University of Wisconsin at Madison, (**Graduate: May 2017**)

- **CERTIFICATE IN ENTREPRENEURSHIP (GPA 3.5/4)**: University of Wisconsin Madison, Madison, WI, USA

**BSC. IN ELECTRONICS ENGR. /DIGITAL SYS. (GPA 16.12/20)** : University of Tehran, (**Graduate: February 2015**)

## Skills

**Programming** : C/C++, Python, Java, Scala, Matlab, Julia, Octave, Cuda, OpenCL, Assembly, VB

**HPC Libraries** : OpenMP, MPI, Charm++, Hadoop (HDFS, MR, Hive, Tez), Spark (Zookeeper, storm, flink)

**HDLs** : Verilog, Systemverilog, VHDL, Chisel HDL, System C/C-AMS

**ML Libs** : Tensorflow, Keras, Pandas, NumPy, SciPy, Matplotlib, scikit-learn, PyQt, JuMP, D3

**Databases** : SQL, SQL-Lite, RocksDB

## RESEARCH EXPERIENCE

### PERSEPOLIS RESEARCH GROUP

University of Wisconsin-Madison

Prof. Amir Assadi

2016-Current

- research and development in big data science methods: Manage and process **massive heterogeneous spatiotemporal data sets** and **BIG DATA** that includes time-series data, video, genome sequence etc.
- Research team member for the project: Novel clustering and data visualization methods for discovery of **Autism Spectrum Disorder (ASD)** personalized therapy.
- propose an architecture based on **Deep Recurrent Neural Network** and its implementation for a solution of ASD classification.
- research and development of physics-based algorithm and software: **Entropy methods** in ASD feature discovery, and pattern classification.
- **INTELLECTUAL PROPERTY (IP)** Disclosure: Novel algorithms and methodology in medicine of ASD, disclosed to Wisconsin Alumni Research Foundation (**WARF**) for patent application.
- Research in Progress:
  - Big data local-to-global methods in analysis and prediction of dynamics in **Atmospheric Chemistry Spatiotemporal Data**.
  - Inverse problems in **brain activation dynamics** using multiple modalities (**fMRI, EEG, and DTI**)

### CASES IN COMPENSATION

University of Wisconsin-Madison

Prof. Barry Gerhart

2015-2016

- **FINANCIAL DATA ANALYTICS**: Implement interactive application to manage and Analyse the **Financial dataset**

- Case In Compensation: Implement an **integrated case on pay model and Compensation** used in the HR Compensation textbook.

## DESIGN, VERIF. & DEBUG OF EMBEDDED SYSTEMS (DVDES) LAB

Prof. Bijan Alizadeh

University of Tehran

2014-15

- HW/SW co-design of **Highly parallel** Blokus-Duo Solver based on **Monte Carlo Tree Search (MCTS)** Engine on Terasic DE2-115 FPGA board.
- Research on a **Monte-Carlo Tree Search(MCTS)** Based Scheduling algorithm.

## PROFESSIONAL EXPERIENCE

### LEAD HARDWARE DESIGNER/PROGRAMMER/VERIFICATION ENGINEER

IWIN CO.

AUGUST 2014-JULY 2015

Tehran, IRI

- FPGA-based **Hardware Security Module (HSM)** to provide a secure platform for bank applications such as money transactions, on Zync7100 SoC platform.
- Manage a 4 member HW team to Design the FPGA-based hardware to implement wide range of cryptographic algorithms in Chisel HDL (RSA, AES, 3DES, ECC, etc.)

### PROGRAMMER/EMBEDDED ENGINEER

PARDIS CO.

MAY 2016-AUGUST 2016

Tehran, IRI

- Embedded low cost **web server** to manage a cryptographic network node to **secure media the communication**.

### PROGRAMMER/EMBEDDED ENGINEER

S. T. FARABI Co.

JUN 2013-JAN 2014

Sanandaj, IRI

- High performance, low-cost **Genetic algorithm (GA)** based robotic arm controller on FPGA platform.
- GA based high throughput **facial recognition** hardware on FPGA platform

## NOTABLE PUBLICATIONS

- M. Biglari, **E. Qasemi**, B. PourMohseni, "Maestro: A High-Performance AES Encryption/Decryption System", The 17th CSI International Symposium on Computer Architecture & Digital Systems (CADS 2013), October 30-31, 2013, School of Computer Science, IPM, Tehran, Iran.
- **E. Qasemi**, Mohammad H. Shadmehr, Bardia Azizian, Amir Samadi, Sajjad Mozaffari, Amir Shirian and Bijan Alizadeh, "Highly Scalable, Shared Memory , Monte Carlo Tree Search based Blokus Duo Solver on FPGA ", International Conference on Field-Programmable Technology (FPT), 2014.

## VOLUNTARY AND LEADERSHIP EXPERIENCE

- **President** at **Persian Student's Society of UW Madison (PSS)** 2015-2017
- **Organize and Lead** group of 7 undergraduate students to participate in:  
     ICFPT Design Competition Summer and Fall 2014-15  
     FPGASoC Design competition Winter 2014
- **Embedded Linux workshop instructor** at ICEEP Group Summer 2014

## INTERESTS

Piano, and Setar (Persian Traditional instrument),

Archery, Hiking, Biking, and Hitchhiking (I have really missed this last one)

Languages: Persian(MT), Kurdish(MT), Azeri(MT), Arabic (reading knowledge), English