Aref Moqadam Mehr

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As of November - 2015

EDUCATION

Qazvin Islamic Azad University (QIAU)
Bachelor's Degree of Science in Software Engineering -- 2011-2015

Ranked among top 6 in entrance exam in more than 500 participants.

- Thesis: 3D Image Understanding

Shahid Soltani High School (Part of NODET[1])
Diploma in Mathematics and Physics Discipline - 2004-2011

- GPA: 16.60/20

WORKING EXPERIENCE

Head Member of **NAB**[2]
SRC -- Since 2015

Head Member of **Distributed Systems Lab.**
QIAU -- 2013 - 2015

Superviser of **Modeling and Vision Group** of **Nao**[3] **biped Lab.**
QIAU -- Since 2012

PROJECTS

To3D.Net
NAB, SRC.Systems -- 2015

To3D is a computer perception based project, tries to reconstruct 3D model from the images taken from an object.

Vision Module for Nao Robot
Vision Group, Nao biped Lab., QIAU -- 2015

Detecting objects on the SPL soccer field by machine learning mechanism via neural networks learning system.

Green SRC
SRC.Systems -- 2015

This project makes building more intelligent so that they could interact more with the individuals and be more energy efficient without being annoying.

QGrid Project
Distributed System Lab. QIAU -- 2014

QGrid is a grid computing project based on BOINC[4] platform and producing 10 TFlops computational power.

Dynamic Head Motion and Active Vision
Modeling Group, Nao biped Lab., QIAU -- 2014

Calculation of the best direction to go / look based on previous observations and a model of the world by probabilistic approaches like particle filter.

Modeling the Environment for Nao Robot
Modeling Group, Nao biped Lab., QIAU -- 2013

Estimation, Filtering and Tracking position and behavior of detected objects.

Semi-Automatic Sensor Calibration
Vision Group, Nao biped Lab., QIAU -- 2012

Calibration of camera and gyro sensor displacement using Gauss-Newton

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[1] National Organization for Development of Exceptional Talents
[2] Negar Afarin Barajin, Research Base Company
[3] Aldebaran Nao Robot : http://www.aldebaran.com/en/humanoid-robot/nao-robot
[4] Berkeley Open Infrastructure for Network Computing

optimization method. Calibrations are used for determining the object's position.

Vision Module for Nao Robot
Vision Group, Nao biped Lab., QIAU -- 2012

Object Detection using data analysis and Image Processing for a VGA camera. Implemented with C++ on a weak processor for real-time use.

Smart Mirror Project[5]
Industrial Project -- 2013

Warn the driver when there is a car in his blind spots. Adjust the mirrors for the driver by detecting and tracking the position of his eyes with a camera.

Autonomous Parallel Parking
Industrial Project

A module for cars to let them park autonomously in almost any parking.

Optical Character Recognizer (OCR)
MATLAB based project -- 2013

Utilizing Neural Network learning methods to scan image and extract texts.

HONORS AND AWARDS

Recipient of Scholarship from QIAU
Since 2011.

Technical Committee of RoboCup Iran Open
Since 2015.

Make it up to Quarter Final in World RoboCup Champion
Standard Platform League, João Pessoa, 2014

3rd place of RoboCup German Open
Standard Platform League, Magdeburg, 2014.

1st place of RoboCup Iran Open
Standard Platform League, Tehran, 2012, 2013, 2014.

Participating to World RoboCup Champion
Standard Platform League, since 2012.

Participating to RoboCup Iran Open
Junior Secondary Soccer League, Tehran, 2010.

Water Amount Controlling Unit (TAC)
One of the selected Proposal[6] over the province - 2005

PUBLICATIONS

- **Aref Moqadam Mehr**, Novin Shahroudi. **A Debugger Tool for Vision on Humanoid Framework**. Iran Open 2013 5th International Symposium (RIOS13) - IEEE indexed. April - 2013
- Majid Lashgarian, Mohammad Shafiei R. N., Mohammad Ali Zakeri Harandi, **Aref Moqadam Mehr**, et al. , **MRL-SPL 2013 Team Description Paper** (TDP), RoboCup 2013 Eindhoven, Netherlands.
- Ehsan Hashemi, Maani Ghaffari Jadidi, Mostafa Yaghobi, **Aref Moqadam Mehr**, et al. , **MRL-SPL Code Release and Team Report** 2012

[5] Cars side mirrors. This feature is already available by some of world large car manufacturer.
[6] Proposed to Kharazmi Youth Festival

RESEARCH INTERESTS

I am interested in **computer vision**, **augmented reality**, **probabilistic robotics** and **Machine Learning**. I am also planning to get involved in **Natural Language Processing (NLP)** especially for usage in new generation of **operating systems**.

TALKS

An Efficient Graph-Based Image Segmentation
Qazvin Islamic Azad University - 2015

Scrum Software Engineering
Qazvin Islamic Azad University - 2014

Active Vision and Head motion
Iran Open Innovation Challenge - 2014

Object Oriented Analysis and Design
Qazvin Islamic Azad University - 2014

A Debugger Tool for Vision on Humanoid Framework
Iran Open Symposium - 2013

SKILLS

- **Natural Languages:** Persian (First Language), English (Fluent), Spanish, German, Türkish (Beginner)
- **Programming Languages:** C/C++ (expert), MATLAB (expert), PHP, C#, Shell Script, BASIC (VB.NET), *And Familiar with*: Java, Python, JavaScript, HTML5 and CSS3, Make, CMake and QMake, Assembly (Intel x86), MySQL, XML
- **Technologies & Libraries:** Google Protobuf, Video4Linux (V4L, V4L2), BOINC platform, openCL, openMP, openGL, openMVG
- **Operating System:** Linux, Windows, Android
- **SDK/API:** BOINC, Qt SDK, .NET, Android SDK,
- **IDE/Applications:** MATLAB, GDB, Subversion, Git, Eclipse, Qt Creator, Visual Studio, Vim, Android Studio

REFERENCES

Upon Request