



# Alireza Ghasemi

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## Education

### École Polytechnique Fédérale de Lausanne

*PhD, Computer, Communication and Information Sciences*

Supervised by Professor Martin Vetterli and Dr. Adam James Scholefield.

Lausanne, Switzerland

2011–Present

### Sharif University of Technology

*M.Sc., Artificial Intelligence*

Tehran, Iran

2009–2011

### Sharif University of Technology

*B.Sc., Software Engineering*

Tehran, Iran

2005–2009

## Selected Professional Experience

### École Polytechnique Fédérale de Lausanne

*Doctoral Researcher - R&D Engineer*

Lausanne, Switzerland

2011–Present

In charge for cutting-edge research in the areas of image retrieval, multi-camera systems, video analysis and image-based localization. I develop mainly in MATLAB, Java, JavaScript and Python.

- Developed a patent and a track record of publications in the area of light-field image retrieval and video analysis.
- Proposed the first publicly-available dataset for light-field object recognition.
- Participating as an R&D engineer in the development of an outdoor urban localization system.
- Developed a novel online game (using Play! and RESTful services) to exploit human computation paradigms in sentiment analysis.

### DSP Lab - Sharif University of Technology

*Research Assistant*

Tehran, Iran

2010–2011

In charge for development of innovative image retrieval algorithm incorporating machine learning and relevance feedback. I used MATLAB and Java to develop the system.

- Developed a novel robust one-class classification framework and added active and semi-supervised learning capability to the well-known Support Vector Data Description (SVDD) model.

### Intelligent Information Systems (IIS) Laboratory

*Web Developer*

Tehran, Iran

2009–2010

Database and web developer (PHP/Java) for a national-level enterprise project management system.

## Peykasa Messageware Group

Backend Service Developer

Tehran, Iran

May 2009– October 2009

Backend developer in an integrated messaging platform. I developed in JavaEE, GWT and AJAX.

## Skills

**Java Development:** Expert. In-depth knowledge of JavaSE, JavaFX, Swing, JDBC, Weka, etc. Working knowledge in Android development

**JavaScript:** Experienced in Node.js, Chrome extensions, frameworks, client-side scripting, etc.

**C/C++:** Experiences with OpenCV and STL.

**Python:** Experiences in Blender scripting, NumPy and SciPy.

**MATLAB:** Proficient in Signal and Image Processing, Computer Vision and Pattern Recognition toolboxes.

**Web Development:** Experiences in REST, Symphony, Spring MVC, Play!, GWT, Grails, etc.

**Typesetting:** Fluent in  $\text{\LaTeX}$ .

**Database Design:** Experiences in SQL, ERD, NoSQL (MongoDB, Firebase).

## Languages

**Persian:** Native

**English:** Full professional proficiency

*Used extensively in study and work. C1 level.*

**French:** Limited working proficiency

*Learning since 2012. Currently in B1 level.*

**German:** Limited working proficiency

*Learning since 2013. Currently in A2 level.*

**Arabic:** Elementary proficiency

*Learned basics in high school.*

## Selected Publications

**Method and Apparatus for Identifying Local Features**, Alireza Ghasemi; Laurent Rime; Martin Vetterli: Swiss Patent No. 2013CH-1102, Filed June 2013.

**On the Accuracy of Point Localisation in a Circular Camera Array**, Alireza Ghasemi; Adam Scholefield and Martin Vetterli, IEEE International Conference on Image Processing (ICIP), 2015.

**A Bayesian Approach to the Data Description Problem**, Alireza Ghasemi et. al., AAAI Twenty-Sixth Conference on Artificial Intelligence (AAAI-12), 2012

## Selected Honors and Awards

**Qualcomm Innovation Fellowship 2015**

*Winner of the prestigious Qualcomm Innovation Fellowship (QInF'15).*

**Lausanne, Switzerland**

*Spring 2015*

**Doctoral Fellowship from the I&C School of EPFL**

*Granted full one-year fellowship to start PhD.*

**Lausanne, Switzerland**

*Fall 2011*

**Rank 1st in the Artificial Intelligence section of the Sharif University**

*Ranked by GPA.*

**Tehran, Iran**

*Summer 2011*

**Rank 1st in the nationwide graduate entrance exam in IT engineering**

*Among more than 13,000 students.*

**Tehran, Iran**

*Summer 2009*

## Interests

**Reading:** Literature, History, Technology. Gaining general knowledge through studying novel topics.

## References

Available upon request