



Alireza Ghasemi

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Born 1987, Iranian citizen, Swiss B permit holder.

Education

École Polytechnique Fédérale de Lausanne

PhD, Computer and Communication Sciences

Lausanne, Switzerland

September 2011 – December 2016

Sharif University of Technology

M.Sc., Artificial Intelligence

Tehran, Iran

September 2009 – August 2011

Sharif University of Technology

B.Sc., Software Engineering

Tehran, Iran

September 2005 – September 2009

Selected Professional Experience

ELCA Informatik AG

Senior Engineer/Data Scientist

Zürich, Switzerland

September 2018 – Present

Moved to our Zurich offices, starting a new series of adventures in Data analysis and engineering.

ELCA Informatique SA

Software Engineer and Data Scientist

Lausanne, Switzerland

January 2017 – August 2018

Projects spanning a variety of sectors aiming to collect, organise, efficiently retrieve, gain insight from, and make sense of data in different volumes and a variety of modalities, including audio, visual, and text information.

École Polytechnique Fédérale de Lausanne

Doctoral Researcher - R&D Engineer

Lausanne, Switzerland

September 2011 – December 2016

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

- Developed a patent and a track record of publications in light-field image retrieval and video analysis.
- 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.

Swiss Center for Electronics and Microtechnology (CSEM)

R&D Intern

Neuchâtel, Switzerland

October 2015 – March 2016

In charge of developing novel cutting-edge solutions for hyper-spectral imaging.

Skills

Data Science & AI: Expert in Machine Learning (TensorFlow, Keras, XGBoost, LIME, DL4J), Natural Language Processing (Spacy, NLTK, CoreNLP, Transformers), Time-Series Prediction, Computer Vision.

Software Engineering: Expert in Java (JavaFX, Vaadin, JDBC, Spring), Scala, Python (Data Analysis, Visualisation, and Web Frameworks). Working knowledge in Android development

Data Engineering & Databases: Experienced in Apache Spark, Kafka, Hadoop, SQL, ERD, NoSQL (MongoDB, Firebase), Teradata, Oracle.

Web Application Development: Experienced in Node.js, Chrome extensions, client-side scripting, REST service development, Play!,

Image & Signal Processing: Expert in Multi-Camera Image Analysis, 3-D Reconstruction, Camera & Visual Localisation, Super-resolution (OpenCV, MATLAB).

Scientific Computing: Expert in Numerical & Black-box Optimisation, Convex & Non-Convex problems (MATLAB, Python, R)

Languages

Persian: Native

French: B1. Limited working proficiency

English: C1. Full professional proficiency

German: A2. Learning. Limited working proficiency

Selected Publications and Patents

Method and Apparatus for Identifying Local Features: *Alireza Ghasemi*; Laurent Rime; Martin Vetterli, US Patent 9,613,256, Granted Apr. 2017.

Point and Sensor Estimation from Images: Martin Vetterli; *Alireza Ghasemi*; Adam Scholefield, US Patent Application 15/275,973, Filed Sep. 2016.

Bound and Conquer: Improving Triangulation by Enforcing Consistency: Adam Scholefield; *Alireza Ghasemi* and Martin Vetterli, IEEE Transactions on Pattern Analysis and Machine Intelligence. Early access Sep. 2019

SHAPE: Linear-Time Camera Pose Estimation With Quadratic Error-Decay: *Alireza Ghasemi*; Adam Scholefield and Martin Vetterli, IEEE ICASSP 2016. Shanghai, China

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. (*Chosen in the top 10% papers*)

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

EPFL Bonus for Exceptional Performance

Granted a bonus increase in salary due to exceptional scientific performance at EPFL.

Lausanne, Switzerland

Fall 2015

IEEE Signal Processing Society Travel Grant

Granted the IEEE SPS Travel Grant to attend the conference ICIP 2015.

Lausanne, Switzerland

Spring 2015

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