



21
Active
Projects

70
Total
Projects

75
People

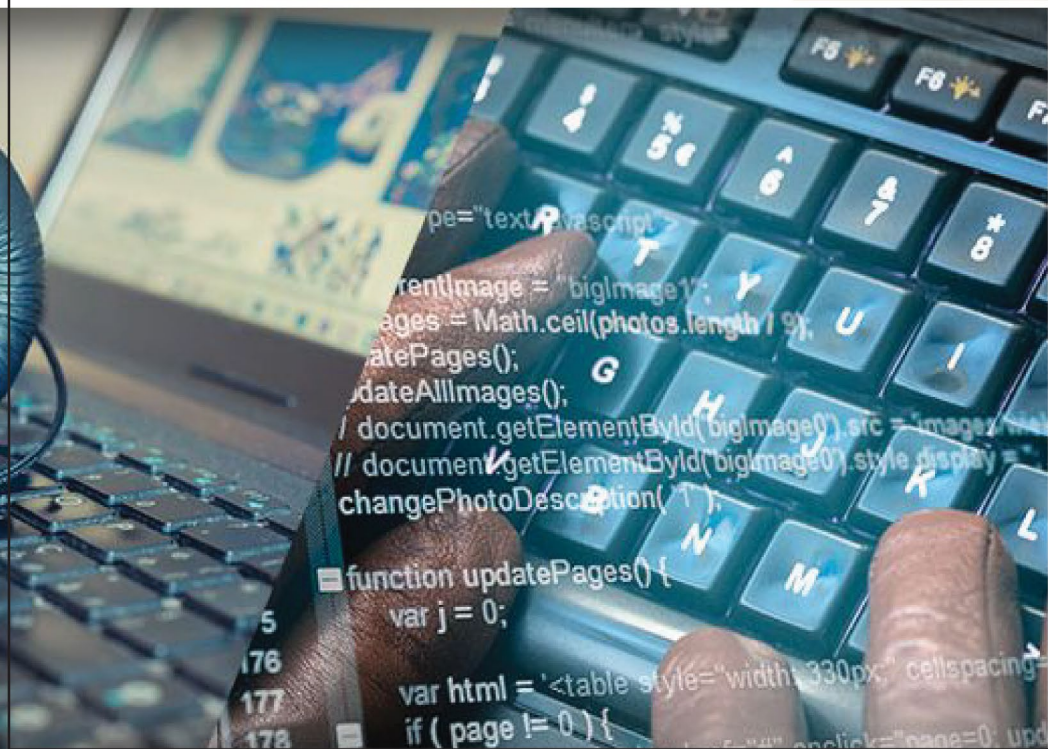
350
Publications

VOL Visual Computing Lab
Information Technologies Institute

The focus of the Visual Computing Laboratory is to develop new algorithms and architectures for applications in the areas of Computer Vision and Machine Learning.

 **Information Technologies Institute**
 **CERTH**
CENTRE FOR RESEARCH & TECHNOLOGY HELLAS
 **Visual Computing Lab**
Information Technologies Institute

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According to the International Organization for Migration (IOM), over a million persons have arrived in Europe since January 2015 with many of them fleeing conflict zones in Syria and Iraq. Over the past years, the European Union has received people fleeing conflict zones outside Europe on a scale unprecedented for Europe since World War II. In the multi-faceted challenge of integrating new arrivals, new solutions are needed to cope with the continuous augmenting migration flows.

The **Visual Computing Lab** is a key role partner in a number of Migration projects with focus on solutions that require learning and machine intelligence. VCL has introduced novel deep machine learning approaches for exploiting large amounts of structured and unstructured data from heterogeneous resources, processing and fusing multimodal data. The aim of the solutions is to provide effective communication channels for multiple languages and cross cultures. The profiling and matching of skills and needs for providing education and job seeking capabilities for the migrants in their host societies, or the implicit understanding and profiling through games and application usage patterns.



Computer Vision and Machine Learning in Migration

VCL has introduced novel deep machine learning approaches for exploiting large amounts of structured and unstructured data from heterogeneous resources, processing and fusing multimodal sensor data.

Available solutions:

- Communication channels for multilanguage and non-written communication
- NLP based Electronic Administration Companions (Context based Chatbots)
- Learnable and free conversation chatbots
- Asynchronous, video-based communication
- Profile analysis and matching for recommendation and guidance
- Implicit and latent profiling through games
- Knowledge gathering and visualisation



NADINE

NADINE project aims to develop a novel way of integrating migrants and refugees through ICT-enabled solutions

that will automatically adapt to the specificities of each person. NADINE project, taking into account this important factor, will create an adaptable platform able to: 1) Provide functionalities for skill assessment (both hard and soft), 2) dynamically create tailored suited training programs to adapt existing skills into host societies needed skills (skills shifting), 3) provide a digital companion that will suggest and assist the end-users through administrative tasks and 4) create a data lake available to public administration bodies for better organization.



ICT-enabled
integration facilitator
and life rebuilding guidance

The REBUILD project addresses immigrant integration through the provision of a toolbox of

ICT-based solutions that will improve both the management procedures of the local authorities and the life quality of the migrants. The design approach is user-centered and participated: both target groups (immigrants/refugees and local public services providers) will be part of the user requirement analysis and participants in three 2-days Co-Creation workshops organized in the 3 main piloting countries: Italy, Spain and Greece, chosen also for their being the “access gates” to Europe for main immigration routes.

