The increasing complexity of current computer vision algorithms for autonomous driving, such as object detection and classification using neural networks, represents a challenge for automotive system designers. Fulfilling real-time processing requirements and constrains in energy consumption is hard even for current processing platforms. The goal of this project is to design a new approach of application-specific vector processor for FPGA implementation. The well-known overhead of other platforms (e.g. GPUs) shall be avoided by using several strategies: Novel functional mechanisms, a modular and customizable architecture and a suitable development framework, which is especially designed for the implementation of automotive applications.). An FPGA-based prototype will demonstrate the performance of the vector processor concept for a selected application at the end of the project.

**Project duration:**
May 2016 - October 2017

**Bibsonomy show project publications:**
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**Members:**
vaya

**Project manager:**
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**Project type:**
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**URL:**
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**Research Area:**
Cyber Physical Systems

**Status of the Project:**