
Preface

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Biographical notes: Klaus-Dieter Kuhnert is the Head of the Institute of Real-Time Learning Systems at the University Siegen, Germany, since 1996. In 1988 he got his PhD from the German Armed Forces University München for a parallel-processor vision system, with which the autonomous vehicle VaMors was able to drive at a speed of 100 Km/h. He acts as Editor/Referee for several scientific magazines (e.g., Computer Vision, IEEE Trans on Robotics, IEEE Industrial Electronics). The actual research is focussed on learning and vision systems for autonomous driving and driver assistance. To this purpose the institute operates two experimental vehicles (AMOR and CLK500).

Martin Stommel is working as a Research Associate at the Institute of Real-Time Learning Systems at the University Siegen, Germany. He received his MSc Degree in Computer Engineering from the University Siegen in 2002. His research interests include pattern recognition, computer vision and mobile robots.

When we started to think about a workshop, it was completely unclear in the beginning if there was a widespread interest in bringing together automatic learning and real-time.

Of course in the last decades a lot of activities have been pursued on automatic learning for a wide variety of topics or domains, and also in numerous real world applications time often plays a predominate role. But historically, in automatic learning there was a certain focus on the investigation of more synthetic, clear cut problems, maybe with a background stemming from artificial intelligence.

In parallel, the control theory community developed a lot of methods like e.g. adaptive control, which incorporate learning components in real-time systems.

Due to the big demand in automation, robotics and mobile systems it seemed to be desirable to have both automatic learning and real time behaviour available in one system. Thus, we thought it might be appropriate to generate a forum for exchanging the ideas of the different viewpoints to encourage a new generalised view.

Happily, we can state now that the echo from the community confirmed our first idea. The presentations and intensive discussions together with the encouraging comments might have been a signal that a first step has been done now. Due to these responses we now plan to extend the workshop into a periodical event.

We have to thank the contributors and the referees, who were the real reason to make the workshop a success.