

Hamburger Informatik Technology Center e.V. - Technology Transfer at the Department of Informatics of the University of Hamburg

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Abstract: This position paper provides an overview of the organisation and activities of the Hamburger Informatik Technology Center e.V. (HITeC). The goal of HITeC is to transfer state-of-the-art scientific results, achieved at the Department of Informatics of the University of Hamburg, to companies, the public administration, and other research institutes.

Keywords: Technology Transfer; Applied Research; Artificial Intelligence

1 Profile

HITeC is the research and technology transfer center of the Department of Informatics at the University of Hamburg and offers the competence of leading computer scientists of the department. Due to HITeC's independent status and professional organization, the cooperation between HITeC and the industry as well as other research groups is flexible and goal-oriented. HITeC is a registered non-profit association, and its members are leading researchers from academia.

HITeC's activities are always research- or education-based. They include research cooperation, consulting and expert studies, subcontractual research and development, as well as administrative project support. The goals include strengthening contacts between companies and the Department of Informatics at the University of Hamburg, dissemination, seminars and workshops. Further activities include or support courses offered jointly by the university and companies, contact fairs for recruiting, seminars for career choice, and spin-off support.

Topics in which HITeC demonstrates excellent expertise, based on experiences from concrete projects are (among others): • Object-oriented Software Development Framework and Component Technology; • Modelling and Simulation of **Logistic Systems**; • Software **Ergonomics and Usability**; • **Intelligent Systems** in Technical Applications including Machine Learning, Computer Vision, and Natural Language Processing; • **Knowledge Management**, Semantic Web, and Multimedia Information Processing; • Information

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Systems for **Enterprise Ecology**; • **Mobile and Location Aware Computing**; • **E-Business Concepts and Technologies**; • **e-Government**.

2 Collaborations

The liaison between HITeC and the Department of Informatics allows for a great variety of collaborations between companies and HITeC: • Advising student theses, • Performing research and providing advice for relevant research questions • Cooperative projects for conceptualisation and prototypical realisation of software technologies and applications. Companies interested in continued cooperation with HITeC may become sustaining members. A list of cooperation partners can be found on our web site⁴.

Within EU projects, HITeC processes research activities with international partners. Examples are: • **OPENREQ – Intelligent Recommendation Decision Technologies for Community-Driven Requirements Engineering (EU Horizon 2020 Project 732463, 2017-2019)**, which develops novel context-aware requirements engineering approaches and tools especially for large and distributed software projects; • **RACE – Robustness by Autonomous Competence Enhancement (EU FP7-Project 287752, 2011 - 2014)**, whose aim was to develop a robot which learns from experiences; • **Co-Friend – Cognitive & Flexible learning system operating Robust Interpretation of Extended real scenes by multi-sensors Data fusion (EU FP7-Project 214975, 2008 - 2011)**, whose aim was to develop a vision system for monitoring aircraft service activities at Toulouse Airport. As a result of such projects, in cooperation with the University of Hamburg, HITeC developed an interpretation system that combines low-level object recognition with high-level aggregations of scene interpretations.

3 Experiences and Latest Developments

A main need for effective technology transfer which is lived at HITeC is the dynamic, fast, and responsive interaction with existing and potential project partners, i.e., on • **the economic processing**: quotes, contracts, invoices; • **the technological processing**: selection of appropriate technologies and researchers, performing problem adequate conceptual and experimental research; • **the dissemination processing**: understandable presentation and communication of project results, transferring project results to other projects as well as back to research and education. Furthermore, the physical proximity of persons performing technology transfer and researchers of the university enables the needed dynamics. Through the years (HITeC was founded 1997), a sustainable pool of researchers, processing projects as well as deep know-how in areas such as software development, computer vision, and knowledge-based systems adds fundamental experiences to running and upcoming projects. As a recent development, HITeC is part of the **Artificial Intelligence Center Hamburg**

⁴ <https://www.hitec-hamburg.de>

(ARIC)⁵). ARIC operates as a single point of contact in the region of Hamburg for demands related to Artificial Intelligence of any kind, economically, societally, scientifically. Doing so, it performs networking and project management and, hence, acts as a marketing instrument for HITeC's transfer activities in the field of Artificial Intelligence.

⁵ <https://www.aric-hamburg.de>