Almende – ERIM Marie Curie IIFs or IEFs

Almende BV (www.almende.com) is a high-tech commercial research company (SME) researching advanced hardware and software-agent technology. Almende in particular investigates self-organized critical agent-based network solutions to sustain and improve the coalition formation and coordination of communication and collaboration across evolving networks of humans and existing ICT infrastructures. The methods studied and developed for building those solutions are based on principles of synergetics, i.e., interaction, self-organization and cooperation amongst human and/or artificial networks, and principles of multi-scale physics renormalization. Almende applies and evaluates those agent-based solutions in many classical and novel problem domains ranging from software engineering; health- and home-care; logistics; warehousing; road, air, energy and ICT network management; data, information and knowledge management; grid and cloud computing to swarm robotics.

The technology and knowledge that Almende BV develops are further commercialized in spin-off companies. Currently, Almende BV has four daughter companies among which there are ASK Community Systems, DEAL Services and Luna.nl. ASK Community Systems provides its customers intelligent communication and collaboration systems connecting different servicing groups of users depending on their needs. Deal Services provides robust agent-based logistic management solutions. Luna.nl is Rotterdam's largest Internet Service Provider for the business customer. ASK Community Systems has offices throughout Europe, US and China.

The Learning Agents Research Group at Erasmus, LARGE (www.large.rsm.nl), is an interdisciplinary research group, located at the Rotterdam School of Management, spanning the fields of artificial intelligence, behavioral science, computer science, economics, information systems, operations research, and software engineering. The primary objective of the group is to research, develop, and apply autonomous intelligent agents to support human decision making capabilities in the area of business networks, electronic markets, and supply-chain management.

Modern business networks and markets are highly dynamic and exhibit a high degree of uncertainty. Under these conditions business managers are routinely faced with complex strategic, tactical, and operational decisions; decisions ranging from the macroscopic (i.e. which markets should we enter and when?) to the microscopic (i.e. which products should be packed on which pallet?). Within LARGE, we investigate how learning agents may be designed to support humans in these decision making processes. We define learning agents as software entities that carry out some set of operations on behalf of a user or another program with some degree of independence or autonomy, improve their performance from experience and in doing so employ some knowledge or representation of the user's goals or needs.

LARGE's long-term research goal is to create complete, robust, autonomous and mixed-initiative agents that can learn to interact with other intelligent agents (agents representing humans and humans directly) in a wide range of complex, dynamic environments. These agents must sense their environment, reason about the behaviors of other agents (both teammates and adversaries), engage in high-level cognitive decision making, and execute their actions in the environment. Most importantly agents need to improve their performance automatically over time.

LARGE contributes to new research and development in the areas of machine learning, autonomous agents and multiagent systems, supply-chain management, and agent-mediated marketplaces, and applies those techniques to solve business and economic problems. We perform interdisciplinary research on decision support tools and advanced technologies aimed at significantly enhancing the cognitive limitations of human decision makers and increasing enterprise supply chain performance.

To advance science and technology Almende BV and LARGE strongly foster close collaboration with universities, knowledge institutes, large industrial R&D groups and other SMEs within Europe and third countries. With respect to the Marie Curie Actions - International Dimension; International Incoming Fellowships (IIF[1]) and Intra-European Fellowships (IEF[2]) for Career Development Programmes, Almende and LARGE are willing to host experienced researchers for 12-24 months in Rotterdam, the Netherlands. Both organizations are inviting experienced research candidates to set up in liaison an application on either of the following subjects:

[1] http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.PeopleDetailsCallPage&call_id=199
[2] http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.PeopleDetailsCallPage&call_id=198

- Emerging self-organized agent-based management of evolving supply networks
- Agent-assisted human decision-making through preference modeling, decision recommendation, and feedback in electronic markets

Eligible candidates are welcomed to write and to send a two-to-three pages application letter together with their CV to the contact persons below (**Deadline July 7 2009**); for eligibility conditions please download and check the Information Packages (see references below). In the application letter attention should be paid to the subject that the candidate would like to work on. In particular, the research problem / question, approach, methods and techniques should be mentioned and related to the current or past work experiences – it should be evident how the state of the art in the specific research field is advanced. Upon an internal selection procedure **Dr. Alfons H. Salden** and **Dr. Wolf Ketter** will notify all the candidates about the outcomes (**July 14 2009**). They will then also contact the successful candidates to assist further defining, setting up and submitting their proposals (**Deadline August 18 2009**).

Dr. Alfons H. Salden

Almende BV
Westerstraat 50
3016 DJ Rotterdam
The Netherlands

alfons@almende.org

and

Dr. Wolf Ketter

Rotterdam School of Management
Erasmus University
Department of Decision and Information Sciences, T9-12
P.O. Box 1738
3000 DR Rotterdam
The Netherlands

wketter@rsm.nl