

Germany

KnowledgeMiner Software is a privately held company founded in 1993 in Berlin, Germany. The company is active in research, development, and application of unique self-organizing modelling and analysis technologies. It developed the distinguished Insights and Ockham commercial software packages for macOS. The software implements an outstanding set of parallel algorithms for modelling, validation, and workflow processing of complex systems to allow knowledge extraction from noisy real-world data in a most objective, automated, and fast way. KnowledgeMiner developed and implemented a number of original technologies for validation of inductively built data-driven models including new approaches for application domain definition and identification, cost-sensitive and ensemble modelling with per-sample prediction uncertainty, and self-organizing knowledge extraction from high-dimensional variables space of noisy data. It implemented a set of original algorithms for real-time spatio-temporal predictive modelling and forecasting of high dimensional, dynamic, non-linear, interdependent systems and processes from noisy observation data under incomplete a priori knowledge.

The company has established research co-operations with recognized scientists and experts in adaptive learning, control systems, and knowledge mining from UK (Imperial Collage London), Czech Republic (Technical University Prague), China (Sichuan University, Chengdu), Italy (Istituto di Ricerche Farmacologiche Mario Negri, Milano), and Ukraine (UNESCO Centre of Information Technologies, Kiev).

KnowledgeMiner participated in three EU FP7 research projects related to predictive model development, validation, and prediction of toxicological and eco-toxicological hazards of chemical compounds from experimental data for regulatory purposes within REACH. Other fields of activity and interest have been especially climate change related modelling and forecasting problems, water quality modelling and prediction, and energy forecasting. In 2011, the company developed and published an interdependent, non-linear, global system model of the atmosphere along with an ex ante forecast of global mean temperatures until October 2017 based on monthly observational data, exclusively, by using self-organizing modelling as a most objective and most advanced modelling technology today for short-term (decadal) climate forecasting.

Topics

SC5-02-2017:

Integrated European regional modelling and climate prediction system (RIA)

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