

Postdoctoral position in Nantes, France

Source: <http://sci.tech-archive.net/Archive/sci.math.research/2005-01/0218.html>

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Date: 01/28/05

Date: Fri, 28 Jan 2005 14:00:06 +0000 (UTC)

POSTDOCTORAL POSITION
in COMPUTER SCIENCE and INTERVAL MATHEMATICS
University of Nantes, LINA laboratory, CoCoA Team

The CoCoA (Continuous Constraints and Applications) team of the LINA (Computer Science Laboratory of Nantes Atlantique) laboratory invites applications for a postdoctoral position.

The appointment will be for one year, starting between September 2005 and December 2005. The CoCoA team will support candidates into applying to fellowships and grants programs. For this purpose, interested candidates should send their application the sooner.

Context

The CoCoA team consists of 15 researchers who aim at solving general first-order formulas over integers and reals, involving non-linear constraints, uncertainty, preferences on the data and efficiency criteria. The base tools we use are interval analysis, constraint propagation (CP), symbolic computation and tree-search methods.

Constraint programming provides a declarative and natural way of formulating problems as constraint satisfaction problems (CSPs) by stating the requirements (constraints) that must be fulfilled by the solutions. The CoCoA team is especially interested in numerical CSPs which involve constraints over real numbers. Such CSPs appear in industrial applications like conceptual design, computer aided design, robotics and molecular biology, which are the main applications the CoCoA team is tackling.

Objectives

The postdoctoral fellow will be involved into one of the ongoing research projects of the team, contribute to the development of the ELISA platform for constraint programming and optimization, and pursue researches in one of the following directions (depending on her/his abilities and desires):

- * hybridization of solving/optimization techniques (local/global,

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numeric/symbolic, ...)

- * design of solving/optimization methods for composite problems (hierarchical conjunctive/disjunctive models, mixed problems)
- * definition of systems and languages for constraint programming and optimization
- * study of a given application field (design, bioinformatics, ...)

Candidate profile

Interested candidates should send an application letter including detailed CV (with a list of publications and a description of research interests) to the contacts below. The candidate must hold a recent PhD (within 5 years) at the appointment time.

Applicants must have sound publications and expertise in one or more of the following areas (in a broad sense):

- * Programming languages and constraint programming
- * Optimization techniques (interval, convex, local, global, ...)
- * Cooperative problem solving

Environment

The city of Nantes is ideally located, only two hours from Paris by TGV (high-speed train, 20 shuttles per day) and about two hours by plane from most European capitals. Gateway to the Brittany ports, just a step away from major tourist sites such as Mont Saint-Michel, the Puy du Fou, the Futuroscope or the "Chateaux de la Loire", Nantes is also only 50km away from the renown coasts of Brittany and beaches of Vendee.

The LINA laboratory offers a friendly working environment and excellent computational facilities.

Contacts

Laurent Granvilliers or Christophe Jermann

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