xeraina
Quality Algorithms

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Company Overview

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Competence

xeraina GmbH is an ETH spin-off company with services and product offerings centered around the core competence of state-of-the-art algorithmic design.

Algorithms design and implementation

Algorithms are the building blocks of any software. Finding the shortest path in a transportation network, computing optimum resource allocation in the airline business, simulating wave popagation in radio networks are only a few examples that require efficient algorithmic solutions. Computation times — seconds vs. weeks — are determined by the choice and implementation of the algorithm.
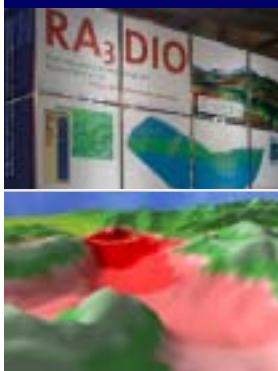
Up-to-date expertise in current algorithmic research is necessary to find and implement the best algorithms for most problems. Active ties to academia enable xeraina to remain at the forefront of commercial software development. xeraina algorithms are designed to find solutions fast and efficiently.

Consulting

The fast pace of business requires companies to adapt to changes in their environments by improving processes and operations. Setting up a product distribution network in a new market, building a a new radio antenna network, or computing optimum train schedules are all computationally intense and algorithmically challenging problems that often do not occur in frequencies that would justify major investments in high-end hard- and software to tackle them.

xeraina has the expertise to solve these problems and others. xeraina's consultants either help our clients' application developers in the design of the algorithmic core of the solution or implement the solution themselves.

Products

- RA$_3$DIO: Radio Antenna Placement with 3D Interactive Optimization — software tool
- UPAL: Optimization software for the rolling stock rostering problem.
- PGF: New, outstanding still image file format with lossless and lossy compression.

Clients

Client profile

Our clients represent a great variety with respect to industries and company sizes. Algorithmic expertise is particularly crucial in
- transportation and logistics,
- engineering,
- manufacturing,
- software development,
- telecommunications,
- financial services and
- government.

Our clients range from consultancies to mid-sized enterprises to blue chip companies.

Algorithmic expertise

xeraina's algorithmic expertise covers most areas of algorithms, among others:
- Combinatorial optimization
- Approximation algorithms
- Mathematical programming
- Linear and nonlinear optimization
- Graph and network algorithms
- Network optimization
- Computational Geometry
- Computer graphics
- Pattern matching

Profile

Facts

- Founded in 2000 by Dr. C. Stamm and partners
- ETH spin-off company
- Incorporated in Zürich, Switzerland

Partners

- ETH Zurich, Institute of Theoretical Computer Science
- Swiss Federal Office of Topography

Business proposition

We substantially increase the computational efficiency of our clients by providing robust, state-of-the art services and products that incorporate our expertise in algorithm design. We leverage our outstanding expertise and our excellent ties to the research community to the full benefit of our clients.

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