

**Eric Nivel**

Garay utca 7  
1076 Budapest – Hungary  
+36 1 321 06 11  
eric\_russie@yahoo.fr

Nationality : french  
Age : 38

## SENIOR R&D SOFTWARE ENGINEER

### PROFESSIONAL EXPERIENCE

---

**08/2005 – present: Holografika (Budapest) – Lead software engineer**

- design and implementation of OpenGL wrappers for the control of holographic projection systems
- design and programming of real-time rendering clusters
- design and implementation of a broadcast transmission system for holographic media
- responsible for the definition of software R&D programme for both long term and medium term strategy
- software team leader (management, recruitment, mentoring, supervision)
- company representative in several international research activities (European Community research programmes)

**12/2003 – 04/2005 : A.T.T.I.L.A artistic lab for theatre and technology (France / Hungary) – R&D engineer, artificial intelligence and virtual environments**

Definition and application of the constructivist engineering programme for theatre as a total art work. Intensive collaboration within the project Roma Amor, Living Scene (director Jean-Marc Musial). The play was first presented in Paris (Grande Halle de la Villette, 2004) and Roubaix (La Condition Publique, 2005).

- design and implementation of Loki, (dedicated adaptation of Ikon Flux, Cf infra) for stage control and interaction with actors and dramaturgy
- design and implementation of Cosmos-238, multimedia and multimodal show control platform (video, live cameras, audio, DMX, real-time 3D, video crossbars)
- design and implementation of Yggdrasil, distributed system for distributed real-time process control and media distribution / synchronization
- design and implementation of Midgard, real time 3D/Video compositing system
- design and co-implementation of a spatial tracking system
- motion tracking through real-time image analysis
- live video acquisition, chroma / luma keyers and special effects
- integration of various custom electronic components (sensors, motors, cameras)
- responsible for the R&D activity

**10/2001 – 11/2003 : TeamChman, multimedia development studio (Lille, France) – R&D engineer, artificial intelligence; project Banja, video game.**

- development of a physics engine
- development of a behavioural engine for the game characters
- general software architecture
- network architecture for multiplayer capability
- object design/programming mentor
- development of a safe OO Flash GUI toolset

**10/1997 – 04/2001 : Antek BioDynamics, R&D Lab (Tourcoing, France) - co-founder, R&D director**  
Head of the research and development team for two commercial products :

- **PoweredObjects**, distributed agent-based framework for the discovery and structuration of content creation process for research labs. Created for the Institut Pasteur and Bio Contract Research (biological, pharmaceutical and medical research) : progressive dissolution of established command, control and communication structures through reappropriation and permanent reprogramming of the agents by end-users. Progressive elimination of administrative rigid functions and self-adaptation to work rythms and knowledge flows.
- **Ikon Flux**, distributed real-time platform for artificial autopoietic organisms (living autonomous systems, with emergent structuration patterns). Industrial applications: online video games, knowledge management, e-learning, complex systems simulation. Research applications: formal research, real-time support for artistic and experimental creation process, constructivism.

As a consultant:

- Dassault Aviation (aerospace / Seclin, France) 3 months: reengineering of industrial robots control systems, real time cellular computing.
- France Telecom (telecom / Paris) 4 months : Expertise of the development process within the National IT Development Department. Projects: restructuration, expertise transfer to the quality & methods department, training and mentoring in object oriented technologies and project management.
- Cofidis (financial / Lille, France) 2 months : design of the architecture for an agent-based decision-making system.
- Kiloutou (logistics / Wasquehal, France) 3 months : reengineering of the software component production pipeline, training and mentoring in architecture, object oriented development and project management.

**10/1996-09/1997 : Soleri Cigel, IT service company, National Research Centre (Wasquehal, France) – Software architect, object technologies mentor**

Direction of technical project architectures, research engineer for the development of internal tools, technologies and methods. Training and mentoring. Pre-sales engineer.

**01/1992 – 08/1996 : Freelance engineer**

Assistance, design and implementation of autonomous and intelligent systems for real-time process control.

- Sollac (industry / metallurgy / Dunkerque, France)
- Louvain University (research lab / automation / Louvain, Belgique)
- ISEN (research lab / automation / Lille, France)
- Dassault Systèmes (industry / aerospace and defence / Saint Quentin-en-Yvelines, France)
- Matra MS2i (industry / aerospace and defence / Val de Reuil, France)

**TECHNICAL SKILLS**

---

Languages : C/C++, LISP, OBJ3, Java, Visual Basic, C#, rewriting systems

OS : Linux, Solaris, Windows 2000/XP, SoftKernel

DBMS : O2, Gemstone, Goods, Oracle/SQL

Networking : TCP, UDP, Infiniband, CORBA, various device interconnection protocols

Design : UML (including design paterns), RUP, agent modelling (including massive organisations), multi-threading, parallel processing, 32 / 64 bits platform porting

3D engines: Ogre, RenderWare, Open Scene Graph

Graphics: OpenGL, shader programming, DirectX9, DirectShow, Swing, Qt, MFC

IDE & Tools : VisualStudio, VisualAge, Eclipse, KDevelop, SoftWorks, Sun Studio, various CASE tools (Rational Rose, System Architect, Describe, ...), CVS, SVN, SourceSafe, doxygen

Misc : OpenMP, STL, XML, Flash, various real-time media authoring tools (Pilgrim, TouchDesigner, Nuendo, ...)

**EDUCATION**

---

1991 : Masters Degree in Computer Science from Institut Supérieur d'Electronique du Nord (Lille, France)

1985-1988 : Advanced and Special Mathematics classes, Lycée Faidherbe (Lille, France)

## **MISCELLANEOUS**

---

French (native speaker)

English (fluent)

German (beginner)

Russian (beginner)