

# Claudiu Mihail

---

[claudiu.bogdan.mihail@gmail.com](mailto:claudiu.bogdan.mihail@gmail.com)

(+40) 747 491275

Str. Alunişului nr. 108

Sect. 4, Bucharest, Romania

## Education

2006 – 2011 Polytechnics University of Bucharest, Faculty of Automatic Control and Computer Science

2003 – 2006 “George Coşbuc” Bilingual High school, Bucharest, Mathematics and Informatics Profile

## Work experience as a software engineer

- Active contributor to the [TimeOP](#) startup, where I am currently developing the desktop tracking system on Linux. The work so far has involved interaction with different processes (either through BASH scripting or system API) in order to extract relevant information (such as names PIDs etc). The main challenge thus far has been to successfully interact with web browsers such as Chrome and Firefox on a detailed level so as to extract information without hindering user work. Also work has been done to port the tracker interface to GTK in order for it to run on Linux systems.
- In 2010, successfully participated in the Google Summer of Code (GSoC) program as part of the Crystal Space 3D organization. Created a new graphics occlusion culling system for the core 3D engine. The culling system makes use of an advanced algorithm called Coherent Hierarchical Culling++ (CHC++). The algorithm uses modern graphics chips ability to give information about which geometry is invisible (due to being occluded) and which is visible. The main challenge of this project was integrating a new generation algorithm into the code base and making various modifications to core code to facilitate integration.
- In 2009, successfully participated in the Google Summer of Code (GSoC) program as part of the Syslinux organization. My work involved rewriting much of the command line interface from x86 assembly code to C code. This was done by integrating an infrastructure for loading simple elf modules into the core of Syslinux. The main challenge was the integration itself as this involved extensive rewriting of C and assembly code both in and outside the core. Also the linking system had to be altered to accommodate for the changes made.

## Honors and Awards

2007

- 3<sup>rd</sup> place at the 2007 ForumIT programming contest held in conjunction with Ubisoft Romania. The challenge was to create a fully fledged program complete with a GUI capable of playing the game of Tic Tac Toe.

2006

- 3<sup>rd</sup> place at the national contest for software projects Infoeducatie 2006. My project, "Under Siege", was a mini 3D Real Time Strategy game. The game was developed in C++ with OpenGL graphics and was playable over LAN.
- Honorary mention at the 2006 Romanian Informatics Olympiad, municipal level.

2005

- Honorary mention at the 2005 Romanian English Language Olympiad, municipal level.

## Skills

- Good computer science background
- Programming languages: C (advanced), C++ (advanced), Java (intermediate)
- Kernel programming (beginner)
- Scripting languages: Autoit v3 (intermediate)
- Intel x86 and x86-64 Assembly (intermediate)
- Platforms: Windows (intermediate), Linux (intermediate)
- Graphics rendering APIs: OpenGL and Direct3D 9.0c (intermediate)
- Knowledge of High Level Shader Language (HLSL – beginner to intermediate), GLSL (beginner)
- Knowledge of Win32 API (intermediate)
- Knowledge of QT (beginner)
- Knowledge of GTK+ and Linux Accessibility (ATK) (beginner)
- Knowledge of Posix API (intermediate)
- Common software development practices: code versioning, code review, bug tracking, patches
- Good written and spoken English (Cambridge Advanced English certification in 2006 with grade A)
- Good adaptability

## Other work experiences and personal projects

- In 2010, autumn semester, Teaching Assistant for a class in Algorithm Design and Complexity at the Engineering in Foreign Languages Faculty.
- In 2010, spring semester, Teaching Assistant for a class in Algorithm Design. Responsibilities included assuring the infrastructure, rules and grading system for the semester project.
- In 2009, created a chess playing program for a school assignment. The program is written in C++ and can be found at <http://code.google.com/p/blitzkibitz/> in the Amaterasu branch (<http://code.google.com/p/blitzkibitz/source/browse/#svn/branches/Amaterasu>). Implementation uses a refinement of the Alpha-beta pruning search-tree algorithm called Negascout with support for transposition tables and opening tables built over magic bitboard data structures. Also it uses a time management mechanism for better gameplay.
- In 2006, developed HPA\*, a path finding algorithm for large sparse graphs (over 100000 nodes). The algorithm is based on the concept of hierarchical path finding and uses the A\* algorithm to formulate near optimal paths at greatly improved speeds.
- Various small games written in C++ and Java with OpenGL and Direct3D.

## References

- Mike Gist (Google Summer of Code 2010 mentor)
  - o [xordan@gmail.com](mailto:xordan@gmail.com)
- Stefan Bucur (Google Summer of Code 2009 mentor)
  - o [stefan.bucur@gmail.com](mailto:stefan.bucur@gmail.com)
- Traian Rebedea (Algorithm Design and Complexity teacher, Polytechnics University of Bucharest)
  - o [traian.rebedea@cs.pub.ro](mailto:traian.rebedea@cs.pub.ro)