

Alexander Kojevnikov

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Profile

An established software developer with over 17 years experience of development using full SDLC. Exceptional skills in C++ and C# languages on Linux/Unix and Windows environments.

Skills summary

- Excellent knowledge of object-oriented programming and design with C++, C#, Python and Perl.
- Relational database design. Extensive experience with Microsoft SQL Server, PostgreSQL, MySQL and SQLite.
- GPGPU programming with CUDA and OpenCL.
- Good understanding of financial markets and instruments. Experience developing pricing engines for exotic binary options.

Education

Current Degree: Master of Mathematics
Major: Applied Mathematics and Informatics
1998–2000: University of Nizhny Novgorod (Russia), graduate school
1994–1998: University of Nizhny Novgorod (Russia),
 Faculty of Computational Mathematics and Cybernetics

Certification

2002–2003: MCP, MCAD, MCSD

Employment history

Thumbtack, Inc. (San Francisco, CA)

May 2012 – present: Software engineer (full-time, permanent)

<http://thumbtack.com/>

TBD

RMG Technology (M) Sdn Bhd (Cyberjaya, Malaysia)

Nov 2010 – May 2012: Senior software engineer (full-time, permanent)

<http://betonmarkets.com/>

RMG Technology is a subsidiary of the Regent Markets Group which runs [BetOnMarkets](#) – the leading financial betting service. Offered bets are in effect exotic binary options on currencies, indices, commodities and stocks; ranging from time horizons of a few minutes to one year.

I was initially hired to support and further develop the website's back end systems, however after a few months I transitioned to the quant team to work on new option pricing engines and to support the quant-related infrastructure.

Our team implemented models varying from vanilla Black-Scholes to Vanna-Volga to LV, SV and SLV. My part in the project was implementation of a Monte-Carlo pricer running on GPUs (using CUDA and OpenCL) as well as improvement of model calibration routines and their integration into the pricing engine.

I worked in a mixed Linux/FreeBSD/Windows environment with wide variety of languages: C++, CUDA/OpenCL C, Perl, R and VBA.

Key achievements:

- Soon after joining the company I migrated its version control infrastructure from SVN to Git. Because the team used branches so extensively, the switch allowed to dramatically reduce the merge time and eliminated most errors caused by merge conflicts.
- Quickly picked up mathematics after ten years of having little exposure to it. Learned stochastic calculus and its applications in finance. Used this knowledge to review research papers and turn their ideas into code.
- Implemented a pricer based on Monte-Carlo simulations running on GPUs. This significantly speeds up simulations and makes MC-based engines practical for the company.

Pluritech CVBA (Vilvoorde, Belgium; Sydney, Australia)

Sep 2005 – Oct 2010: Senior developer (full-time, contract, telecommuting from Sydney)

Jan 2002 – Aug 2005: Senior developer (full-time, permanent)

<http://pluritech.com/>

Pluritech is a fast-growing IT solutions provider located near Brussels. My role in the company was to lead its software development team. I was involved in all stages of the SDLC, from liaising projects with clients and designing solutions that would suit them best, to implementation and deployment.

Most projects I delivered were n-tier client-server applications with client component implemented using Windows Forms, business logic layer written using ADO.NET, and with Microsoft SQL Server as a back-end. The client component connected to the business logic component via a secure HTTPS channel implemented using .NET Remoting technology. Many projects also included a Windows Service component performing various background tasks, such as sending out e-mails, replicating data with off-site databases and processing scheduled tasks.

Pluritech's clients I worked with include:

- European Union Committees and Associations:
 - COPA and COGECA: <http://www.copa-cogeca.be/>
 - ECSA: <http://www.ecsa.be/>
 - ESPO: <http://www.espo.be/>
 - BEMEFa: <http://www.bemefa.be/>
 - OVOCOM: <http://ovocom.be/>
- Atomium: <http://atomium.be/> – the Brussels' most famous building
- Saint-Luc Hospital: <http://www.saintluc.be/>
- Merifin Capital: <http://www.merifin.com/> – an investment group

Key achievements:

- Brought to the company the expertise it needed, transforming it from primarily a hardware reseller and IT support provider to a complete solutions provider with equally large hardware and software departments.
- Successfully led our small but scattered development team. During my employment we had developers working from the main office in Belgium, and telecommuting from Australia, France, Russia and Czech Republic.
- Designed PluriWorks – Pluritech’s flagship product, and implemented most of its 100K+ lines of C#, T-SQL and C++ code.
- Migrated legacy applications written in VB6 and Access to .NET and SQL Server.
- Actively supported existing systems written by 3rd parties in Visual Basic, PHP, Perl and Python.
- Learned that it’s not the technical expertise that matters, but the value it can give the client.

Capvidia NV (Leuven, Belgium)

Dec 2000 – Dec 2001: Software engineer (full-time, permanent)

Capvidia NN (Nizhny Novgorod, Russia)

Jul 2000 – Nov 2000: Programmer (full-time, permanent)

Sep 1998 – Jul 2000: Junior programmer (full-time, permanent)

<http://www.capvidia.com/>

Capvidia is a global software development company with offices in Belgium, United States, Japan and Russia. It specialises in CAD and GIS applications and is a SolidWorks Certified Gold Partner.

I started working at Capvidia after receiving my Bachelor’s degree. My first project was implementation of a C++ library of common graph theory data structures and algorithms. The library was used by the company’s GIS applications.

After the project was successfully completed, I was asked to develop a COM/VBA interface to the architectural CAD application the company was doing for a client. The interface allowed 3rd party companies to write add-ins on top of our application. The project quickly expanded; a year later I was leading a team of 2-3 developers and trainees.

Key achievements:

- Designed and with help of other team members implemented complete COM API for a large-scale architectural CAD application.
- Trained and provided support to 3rd party add-in developers.
- Provided technical assistance and led a small development team.
- Quickly progressed from graduate to senior-level position.
- Learned that close interaction with clients is the key to successful software projects.

Institute of Applied Physics of the Russian Academy of Science

May 1995 – Aug 1998: Junior research fellow (part-time, contract)

<http://www.ipfran.ru/>

Institute of Applied Physics is one of the leading research centres in Russia. It specialises in non-linear dynamics and optics, plasma physics and hydrophysics.

I worked on an application that controlled the optical coherent tomograph designed by the institute. The tomograph performed non-invasive penetration scans and had mostly medical applications. Apart from controlling the tomograph, the program also had a module that converted tomograph's output to popular image formats, applied various filters to the images and performed data analysis.

Key achievements:

- Implemented a complete solution to work with the tomograph which helped to show its full capabilities and resulted in subsequent research grants provided to the institute.
- Applied theoretical mathematics and computer science knowledge gained in the university.
- Learned how to write real-world software.

Open source

I am an avid free / open-source software enthusiast. I am a member of the [GNOME Foundation](#), co-maintainer of [Banshee](#) (a popular media management application) and of [a few other](#) GNOME-related projects.

I also maintain and develop [Spek](#) (an acoustic spectrum analyser) and [muspy](#) (an album release notification service); and contribute to many other free software projects. You can see the full list on my [Ohloh profile](#). Most of the projects I maintain are hosted on [GitHub](#).

Miscellaneous

As an Australian citizen I qualify for the [E-3 visa](#) which gives right to work in the United States.