

Dmitry Dvoynikov

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I am a programmer, and I love my job. I have 25 years of experience building software for money and a few years more of programming for fun before that.

Although my positions were invariably some kind of “software developer”, I always assumed a large part of product ownership, from design and architecture down the smallest details, manual server room cabling if I must, and certainly enjoyed such autonomy.

I held a “lead” position a few times, leading a team of 1-2 other developers, but regardless of the role, I always try to lead by example, mentoring and working closely together.

Over the years I have worked on a lot of interesting projects, building applications, frameworks, network services, web sites and databases mostly in financial/payments area with focus on security and cryptography.

Today I’m a precise analytical pragmatist with “let’s get it done (and here is how)” mentality, caring for the project, striving for quality, simplicity, well-defined architecture and perfecting things through perpetual improvement.

My best languages would be Python, Java, C/C++ and SQL for relational databases (PostgreSQL, MSSQL) plus MongoDB, I prefer working in Windows, administer Linux and FreeBSD, but the full list of languages, products and technologies that I had to work with would be far too long, I only mention some of them in small print alongside the jobs below.

Experience

- **Nov 2021 – present** Lead Crypto Engineer, HSM at [Finoa](#), Berlin

As a part of the blockchain integration team in one of the Germany's largest crypto banks, my job is to design and build a service framework for the HSM devices, write HSM code for blockchains, and provide all-round security expertise.

C++
HSM-specific
C SDK
PostgreSQL

- **May 2021 – Oct 2021** Senior Software Developer at [Reserve](#), USA (remote)

The project that I built here was the "[OFAC](#) replacement", an algorithm, implementation and network service for fuzzy name matching, to be used by the compliance team in the course of KYC approval process.

Python
some alchemy
a bit of
JS and React

- **2017 – Apr 2021** Technical Lead at [3T Software Labs GmbH](#), Berlin

Developing "Studio3T" – the best GUI tool for MongoDB. Designed and implemented new features, refactored the existing code, reviewed others' work. Focused on SQL to NoSQL translation, query plans, security and architecture.

Java
MongoDB
SWT

- **2015 – 2016** Senior Software Developer at [FinReach GmbH](#), Berlin

Developing a web application for switching bank accounts in a FinTech startup within a large Berlin incubator HitFox. It was a drastic change in every imaginable aspect – from back-end to front-end, from one stack to another, from Windows to Mac, from office cubicle to startup open space, finally from Russia to Germany.

Ruby/Rails
Bootstrap
Angular
JS + Coffee
MongoDB

- 2009 – 2015** Lead software developer at [Infosysco](#), Ekaterinburg, Russia

Designed and developed a proprietary online banking system and related crypto security products (classic PKI w/operational procedures, digital signatures, TLS stack, web and desktop app), worked on integration of various financial systems, such as credit card processing and online payments.
Our product was rated the best online banking solution in Russia in [2013](#).

Python
C++
Delphi
PostgreSQL
crypto hw/sw
protocols
- 2011** *Participated in Intel Parallel Programming contest “Acceler8”*

My solution ended up to be the fastest of the “industrial” kind. Unfortunately, a quirk in test data generation made it possible for the winners of that particular contest to cheat around having to parallelize computations efficiently and go for the direct single-threaded solutions.
The story was so intriguing that I [wrote a post](#) about it (in Russian).

C++
Intel TBB
x86
assembler
SSE intrinsics
- 2004 – 2009** Lead software developer at [Severnaya Kazna](#), Ekaterinburg

Designed and developed a proprietary online banking system and related crypto security products, worked on integration of various banking systems. Our product was rated the best online banking solution in Russia in [2006](#) and [2007](#).

Python
C++
MSSQL
PostgreSQL
crypto hw/sw
protocols
- 2006** Remote consultant/contractor at [ScriptLogic Inc](#), USA

Designed and developed a product for tunneling TCP through HTTP for the purpose of defeating firewalls and proxy servers. Later part of [Desktop Authority](#), a secure desktop management software suite.

C++
WinSock
OpenSSL
- 2001 – 2004** Lead software developer at [CIFT](#), Ekaterinburg

Designed and developed of proprietary financial systems, such as remote banking, stock accounting or OLAP reporting framework on top of MS SQL Server.

C++
Visual Basic
MS SQL
T-SQL
MS Access
crypto libs
- 2000 – 2001** Software developer at [SSI Micro](#), Yellowknife, Canada

Built web sites for customers, written software for controlling various satellite networking hardware remotely.

FreeBSD, C
Apache
- 1998 – 2000** Software developer at [Uralvneshtorgbank](#), Ekaterinburg

Built an interactive bank [web site](#) with a back-end connected to various information sources inside the network.

Windows NT
IIS, ISAPI
- 1996 – 1997** Database software developer, Ekaterinburg

Designed and developed a database application for keeping records on archaeological sites and artifacts, with media, such as photos and maps.

Windows 95
MS Access
Delphi

Education

Bachelor degree in mathematics, graduated in 1998 from the [Urals State University](#) in Ekaterinburg, Russia. Short-term post-graduate study in Russia-specific cryptography and information security.

References

“Dmitry is one of those rare developers that are incredibly strong both algorithmically as well as architecturally. He has profound knowledge across the board in software engineering and his level of professionalism has always been exemplary. But perhaps most importantly Dmitry is a very pleasant person that I have had the pleasure of having countless thought-inspiring conversations with over the years.”

– Dr. Thomas Zahn
Co-Founder and Managing Director at 3T Software Labs GmbH

“I have worked with Dmitry on multiple projects, and he always exceeded our expectations, he's one of the best experts in the field, it's really easy to work with him and Dmitry always bringing his 'A' game.”

– Rafi Nagli
Director of Product Development at ScriptLogic

“Dmitry is one of the best engineers I have pleasure to work with. In many projects he has been able to successfully think through the most complex business processes, architect comprehensive frameworks and apply existing technologies in most right way.”

– Mikhail Sidorov
Technical Director at NPO Sapfir (CIFT)

“I would heartily recommend Dmitry for any technical project, firstly for his technical skills, secondly for his professionalism, and lastly for his genuine warmth, patience, well-rounded education, and genuine interest in the world.”

– Jeremy Childs
Director of Development at SSI Micro