

Dmytro BOGATOV

Ph.D. from Boston University & SDE 2 at Amazon |
Database Security, Differential Privacy, ORAM

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Originally from Ukraine, before completing Ph.D. and en-route M.S. from BU, I have received a B.S. degree from WPI, all in Computer Science. My interests are heavily in the practical and applied domain. The goal of my work is designing systems that are both provably secure, with meaningful quantifiable guarantees, and practical. The validation of my work is deploying such a system on a large scale serving many users in public and corporate domains.

SKILLS

Programming	C#, TypeScript / JavaScript, Python, Swift, Java, C/C++, HTML, SQL, \LaTeX , Go, Bash/ZSH, x86 ASM
Frameworks	.NET Core, ASP MVC, SGX, xUnit, Angular, boost::
Common skills	git, Gerrit, docker, bash, console, VS Code, unit testing
DevOps	Ubuntu / CentOS, Kubernetes, CI / CD, NGINX, GitLab admin
Graduate classes	Advanced Algorithms, Cryptography, Advanced Database Systems, Advanced Operating Systems, Distributed Systems, Compiler Design, Applied Cryptography, Optimization Methods

EDUCATION

2013	Kyiv	High school (Lyceum 157) diploma. High distinction.	GPA 4.00.
2017	WPI	Bachelor of Science in Computer Science. High distinction.	GPA 3.99.
2019	BU	Master of Science in Computer Science with a specialization in Cyber Security.	GPA 4.00.
2022	BU	Doctor of Philosophy in Computer Science (Database Security).	

PUBLICATIONS

[BCET21] D. Bogatov, A. D. Caro, K. Elkhayaoui, and B. Tackmann. “Anonymous Transactions with Revocation and Auditing in Hyperledger Fabric”. In: *Cryptology and Network Security*. Springer International Publishing, 2021, pp. 435–459. doi: 10.1007/978-3-030-92548-2_23.

- [Bog+21] **D. Bogatov**, G. Kellaris, G. Kollios, K. Nissim, and A. O'Neill. "Epsolute: Efficiently Querying Databases While Providing Differential Privacy". In: *Proceedings of the 2021 ACM SIGSAC Conference on Computer and Communications Security (CCS '2021)*. 2021. DOI: [10.1145/3460120.3484786](https://doi.org/10.1145/3460120.3484786).
- [BKR19] **D. Bogatov**, G. Kollios, and L. Reyzin. "A Comparative Evaluation of Order-Revealing Encryption Schemes and Secure Range-Query Protocols". In: *Proc. VLDB Endow.* 12.8 (2019), pp. 933–947. DOI: [10.14778/3324301.3324309](https://doi.org/10.14778/3324301.3324309).
- [NBK19] O. Narykov, **D. Bogatov**, and D. Korkin. "DISPOT: A simple knowledge-based protein domain interaction statistical potential". In: *Bioinformatics* (July 2019). DOI: [10.1093/bioinformatics/btz587](https://doi.org/10.1093/bioinformatics/btz587).
- [Bog17] **D. Bogatov**. "Analysis of a Dynamic Voluntary Contribution Mechanism Public Good Game". In: *IPE Journal* 26 (2017).
- [BH16] **D. Bogatov** and J. R. Hennessy. "Data MATTERS: Customizing Economic Indices to Measure State Competitiveness". In: *WPI Library* (2016).
- [NBXO15] B. Nurbekov, **D. Bogatov**, J. S. Xu, and R. J. O'Brien. "Investment Trading And Risk Management: Scientifically Developing and Analyzing Trading Systems". In: *WPI Library* (2015).

CONFERENCES (★ PRESENTED A POSTER, PRESENTATION OR A LIGHTNING TALK)

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| ★ Encrypted Search Workshop at Brown | ➤ Second Workshop on Encryption for Secure Search, Bertinoro, Italy |
| ➤ EUROCRYPT 2019, Darmstadt, Germany | |
| ★ Northeastern Database Day 2019 at MIT | ★ 23 rd Annual Issues in Political Economy Conference, Washington, DC |
| ★ VLDB 2019, Los Angeles, CA | ★ 2016 IEEE MIT Undergraduate Research Technology Conference, Cambridge, MA |
| ★ CANS 2021, Vienna, Austria (virtual) | |
| ★ ACM CCS 2021, Seoul, Korea (virtual) | |

PAPER REVIEWS

2019	IEEE ICDE	2021	SIGMOD Repro	2022	SIGMOD Repro
2020	SIGMOD/PODS	2022	SIGMOD/PODS	2022	IEEE TDSC
2021	SIGMOD/PODS	2022	IEEE ICDE		

PROFESSIONAL EXPERIENCE (RECENT / RELEVANT)

Sep 2021	Software Developer Intern (Redshift team), AMAZON WEB SERVICES , Palo Alto, CA (virtual)
Jun 2021	<div>➤ Query processing optimization</div> <div> <div>research</div> <div>databases</div> <div>big data</div> <div>performance</div> <div>distributed systems</div> </div>

Nov 2020	Software Developer Intern (Redshift team), AMAZON WEB SERVICES , Palo Alto, CA (virtual)
Aug 2020	> Query processing optimization research databases big data performance distributed systems
Dec 2019	Applied Scientist Intern (Crypto Algorithms team), AMAZON WEB SERVICES , Seattle, WA
Oct 2019	> Computations over encrypted data, SSE schemes research encrypted search databases
Sep 2019	Cloud & Computing Infrastructure Intern (Crypto), IBM RESEARCH — ZÜRICH , Rüschlikon, ZH, Switzerland
Jul 2019	> Anonymous Blockchain Transactions with Revocation and Auditing > Developed production-grade cryptographic Go library research blockchain hyperledger fabric delegatable credentials Go
Present	All my past working experiences, ALL OVER THE WORLD , USA, Ukraine, Switzerland
Sep 2014	> Ph.D. / Research Assistant @ Boston University (<i>Boston, MA, USA</i>) > Web / DevOps developer @ RedwoodEDA (<i>Shrewsbury, MA, USA</i>) > Co-founder / web developer @ Shevastream (<i>Kyiv, Ukraine</i>) > Web developer @ Worcester Polytechnic Institute (<i>Worcester, MA, USA</i>) > Web developer @ TradeStation Securities (<i>Plantation, FL, USA</i>) > Senior Teaching Assistant @ CS Department at WPI (<i>Worcester, MA, USA</i>) teaching web development startup devops

PROJECTS

EPSOLUTE: DIFFERENTIALLY PRIVATE SECURE RANGE QUERIES SEP 2018 — OCT 2021

[github.com/epsolute](#) [publication](#)

Developed ORAM-based differential privacy range and point query engine

C++ ORAM differential privacy range queries

ANONYMOUS TRANSACTIONS IN BLOCKCHAINS

JUN 2019 — DEC 2021

[github.com/IBM/dac-lib](#) [publication](#)

Developed production-grade Go cryptographic library

Go blockchains research cryptography privacy

EVALUATION OF SECURE RANGE QUERY PROTOCOLS

MAY 2017 — FEB 2018

ore.dbogatov.org [publication](#)

Analyzed, implemented and evaluated 5 ORE schemes and 5 protocols

C# .NET Core research ORE range query protocols

STATUS SITE

FEB 2017 — SEP 2017

status.dbogatov.org [source code](#)

A multi-component system for collecting and analyzing the infrastructure health

C# .NET Core ASP MVC TypeScript Kubernetes micro-services

SHEVASTREAM

JANUARY 2016 — MAY 2017

shevastream.com [source code](#)

A small retail-oriented startup that sells custom-designed notebooks

startup .NET Core web C# PostgreSQL

LOTS OF OTHER DIFFERENT PROJECTS

ALL THE TIME

[see my portfolio](#) [see me on GitHub](#)

I'm working on different projects all the time! See all of them on my personal website

dbogatov.org

have fun

LANGUAGES

SELECT AWARDS

English ● ● ● ● ●
Ukrainian ● ● ● ● ●
Russian ● ● ● ● ●

★ pVLDB 2021 Reproducibility Award at BU
> Chair's Fellowship at BU
> "Outstanding Junior" at WPI

REFEREES

[George Kollios](#)

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🎓 [Scholar Profile](#)

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