

DENIS ULYBYSHEV

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***Authorized to work in the U.S. with an OPT option after graduation (F-1 Visa)**

SUMMARY

8 years of industrial experience in developing large-scale software for mass market, including firmware for printers, software for healthcare industry and industrial control systems. Knowledgeable innovator in Information Security, Databases, Data Science and Distributed Systems, including blockchain-based technologies. 12 academic peer-reviewed publications, 4 awards and 4 years of research for a corporate sector in the United States. PhD Candidate in Computer Science at Purdue University, graduating in May, 2019. Ready to start full-time work in July, 2019. Look for positions of Software Developer, R&D Engineer, Cybersecurity Analyst, Database Engineer, Data Analyst. Willing to relocate.

EDUCATION

Ph.D. Computer Science	Purdue University, Cumulative / Major GPA: 3.62 / 3.78	May, 2019
M.S. Automatic Control Systems	Bauman Moscow State Technical University (top-10 in Russia), Major GPA: 3.93 (out of 4)	June, 2004

WORK EXPERIENCE

- **Cybersecurity Software Engineer; Coze Health, LLC** June, 2018 - Dec. 2018
Accomplishments:
 - Designed and developed secure HIPAA-compliant solutions (MVP prototype) with data protection in transit and at rest for video conferencing, message chat, fax and electronic surveys, using end-to-end encryption, two-factor authentication and firewalls
 - Developed cloud-based solutions for storing and processing encrypted Electronic Medical Records, using Amazon EC2 cloud infrastructure
- **Project Manager / Research Assistant; Purdue University Computer Science Dept.** Jan. 2013 - May, 2019
Accomplishments:
 - Contributed to writing funded research proposals, obtaining more than \$1.1 million
 - Design and develop a machine learning-based solutions to build risk profiles of drivers, based on their traffic violations history; recommendation and targeted road assistance data propagation systems; anomaly detector for user behavior
 - Designed and developed a blockchain-based framework for privacy-preserving data communications, encrypted search, data analysis and leakage detection
 - Designed and developed secure data exchange mechanism for Vehicle-to-Everything networks
 - Designed and developed a real-time crack detection algorithm for wind turbine blades
- **Teaching Assistant; Purdue University Computer Science Department**
Accomplishments:

Created / graded programming assignments, advised students in the following courses:

"Information systems" (ER-Model, SQL/PLSQL, Big Data Tools: Hadoop, Spark)	Fall 2015, 2016, 2018
"Data Structures and Algorithms" (using C++)	Summer 2018
"Distributed Databases" (concurrency and commitment protocols, security)	Spring 2015
"Cryptography" (symmetric/asymmetric cryptography, data integrity)	Fall 2012
- **Software Engineer (Intern); Flexware Innovation** May, 2017 - Aug. 2017
Accomplishments:
 - Designed and developed meeting room calendar management system (based on Microsoft Outlook and Google calendars), integrated into cloud-based Automation system
 - Developed Failure-Mode-Effect-Analysis project for battery management system (for 'A123 Systems' company)
- **Software Engineer; "Raduga" LLC** Jul. 2009 - Jul. 2012
Accomplishments:
 - Designed and developed automatic control systems for rolling mills, more than 100 items were sold and are being used by customers
 - Developed a corporate web site and applied search-engine optimization techniques, bringing the web site to google top-10 for several search queries
- **Embedded Software Developer; Samsung Electronics** Apr. 2007 - Feb. 2009
Accomplishments:
 - Designed and developed firmware for multifunction peripherals (MFPs) and printers, including hard disk drivers. Thousands of printers and MFPs were sold all over the World
 - Designed and developed an automated firmware testing tool (for mass-storage component)

Accomplishments:

- Designed and developed Energy Management Control Systems for compressor plants, gas-turbine power stations, high-voltage substations (in integration with Siemens, OMRON)
- Deployed 16 Industrial Control Systems on-site
- Designed and developed Building Management systems: CCTV, HVAC, access control

TECHNICAL SKILLS

OPERATING SYSTEMS	Unix (Linux), Windows XP / Vista / 7 / 10, pSOS, VxWorks
PROGRAMMING LANGUAGES	Java, C/C++, Python, Javascript, C#, SQL / PLSQL; IEC Languages for Programmable Logical Controllers (FBD, ST, LD)
HARDWARE	Intel 80x86, ARM (printers, MFPs, Raspberry Pi), relay-protection devices; motor control systems
COMMUNICATION PROTOCOLS	TCP/IP, Modbus
SCADA SYSTEMS	Ignition, PC View (used by Schneider Electric), Lab View
WEB TECHNOLOGIES	REST, Node.JS, HTML / CSS
BLOCKCHAIN PLATFORMS	IBM Hyperledger Fabric
MEMORY PROTECTION TOOLS	Valgrind, Address Sanitizer, SoftBound
FRAMEWORKS / TOOLS	Amazon EC2, Docker, Indri/ Lemur (search engine), Twilio (WebRTC with API for video conferences), IBM ClearCase/ ClearQuest (version control/ bug tracker), Bugzilla (bug tracker), Cognito Forms (surveys)

AWARDS AND CERTIFICATES

- **Aug. 2018:** *Bilsland Dissertation Award Fellowship* (research funds for Spring, 2019)
- **Apr. 2017:** *Purdue Computer Science Corporate Partners Award* (research funds for 2017-2018 Academic year). Corporate Partners include Northrop Grumman, Intel, Qualcomm, Raytheon, Eli Lilly
- **Apr. 2017:** *Purdue Computer Science Harris Teaching Award* for “Supporting Women in Computer Science”
- **Mar, 2015:** *Best Poster Award* at 16-th CERIAS Security Symposium (1 out of 43, selected by Corporate Partners of Computer Science Dept., Purdue University) <https://www.cs.purdue.edu/homes/dulybysh/Images/CeriasCertificate-dulybysh.jpg>
- **Aug, 2005:** *Echelon LonWorks DEVICE Certified Developer #200525* (Building Management Systems)

SPOKEN LANGUAGES

- English (Good), German (Basic), Korean (Basic), Russian (Fluent)

RESEARCH INTERESTS

- *Information Security:* data privacy and leakage detection, access control, search over encrypted data, cloud security, identity management
- *Distributed Systems:* blockchain-based technologies, concurrency control, commit protocols, network failure recovery, vehicle-to-everything (V2X) communication systems, IoT
- *Machine Learning:* user profiling, recommendation systems, object detection, anomaly detection
- *Information Retrieval:* development of search engines and search engine optimization techniques
- *Industrial Control Systems:* SCADA systems, Programmable Logical Controllers
- *Language-based Security:* memory-protection tools, techniques for safe coding

SELECTED PUBLICATIONS

1. D. Ulybyshev et al., “[Blockhub: Blockchain-based Software Development System for Untrusted Environments](#)”
2. D. Ulybyshev et al., “[Secure Data Communication in Autonomous V2X Systems](#)”
3. D. Ulybyshev et al., “[Secure Data Exchange and Data Leakage Detection in Untrusted Cloud](#)”
4. D. Ulybyshev et al., “[On-the-fly Analytics over Encrypted Records in Untrusted V2X Environments](#)”
5. D. Ulybyshev et al., “[Privacy-preserving Data Dissemination in Untrusted Cloud](#)”
6. G. Mani, D. Ulybyshev et al., “[Autonomous Aggregate Data Analytics in Untrusted Cloud](#)”
7. G. Mani, ..., D. Ulybyshev et al., “[Machine Learning Models to Enhance the Science of Cognitive Autonomy](#)”
8. S. Sardesai, D. Ulybyshev et al., “[Impacts of Security Attacks on The Effectiveness of Collaborative Adaptive Cruise Control Mechanism](#)”

ACTIVITIES AND SOCIETIES

- Member of Information Systems Security Association (ISSA), Indiana Chapter Jan.2018 - present
- PhD Rep., Web-Master in Purdue Univ. Computer Science Graduate Student Board 2012 - 2017