

Dmitry Blotsky

Bachelor of Software Engineering, Candidate for MASc

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Technical Skills

Python	a CI system for VoIP hardware; UToronto's Fly-FISH gene database
C, C++	a real-time microkernel to control Märklin trains; an embedded TCP server
JavaScript	most of the code behind cordova.io ; an SMT2.0 to JavaScript compiler
GNU Make	the whole build process for docs.cordova.io ; most of my other projects
Java	worked on IBM's J9 JVM JIT compiler; a territory-conquering game
Assembly	a C to MIPS compiler; a microkernel on ARM; a calculator on Coldfire
Misc. skills and technologies:	regexes, RDF, SQL, Git, Mercurial, SAT/SMT, SMT2.0, Linux, Mac OS X, Windows, Django, Sphinx, bash, TCP/UDP, MDNS, ARP, HTTP, HTCP, SIP, REST, Wireshark, Eclipse, HTML, CSS, Less, SCSS, Gulp, LaTeX, Scheme, nginx, Apache, 3DS Max

Research

[ESLint SMT Extensions](#), my master's thesis, May 2015 - present

- Adding powerful reasoning features to two JS linters, [ESLint](#) and [Jalanqi2](#), using the [Z3str2](#) solver
- Supervised by [Dr. Vijay Ganesh](#), a Waterloo professor and alumnus of Stanford and MIT

Boolean Satisfiability on the GPU, a research project, Jan. 2013 - Feb. 2014 (14 months)

- Researched parallelisation of SAT solvers as part of a team of 5 software engineering students
- Handled automation for testing/benchmarking; worked with AWS, Make, Python, OpenCL, C++
- Supervised by [Dr. Vijay Ganesh](#)

Work Experience

Software Engineer at [Microsoft Corporation](#), Oct. 2014 - Apr. 2016 (1.5 years)

A multinational computer software, hardware, and services company.

- Worked on [Apache Cordova](#) as part of the Developer Tools division
- Worked on automation: CI, docs, and testing; used JS, Python, Make, Jekyll, and Buildbot
- Received [code reviews](#) from devs from Google, Mozilla, and Adobe
- First on my team to be an Apache Committer; promoted halfway to SDE2 after 1 year
- Quit to work full-time on master's degree

Software Engineering Intern at [Apple Inc.](#), Aug. - Dec. 2013 (4 months)

A multinational consumer electronics and technology corporation.

- As part of Xcode Product Engineering Team, created a tool to logically analyze development data
- Received an Outstanding co-op evaluation

Software Engineering Intern at [IBM](#), Jan. - Apr. 2013 (4 months)

A multinational technology and consulting corporation.

- Worked on the Just-In-Time compiler for the J9 JVM; used C/C++
- Took an Advanced Compiler Optimisation course intended for full-time employees
- Received an Excellent co-op evaluation

Software Engineer at [Arcturus Networks Inc.](#), Aug. 2011 - Apr. 2012 (8 months)

An embedded systems company providing VoIP solutions for civil industries (medicine, transportation, etc.).

- Wrote a CI system in Python for Arcturus' VoIP products; increased test coverage from 0% to 50%
- Wrote a TCP server on the MQX RTOS to control a VoIP app on a tiny processor (Kinetis ARM)
- Received an Outstanding co-op evaluation

Web Developer, Web Master at [Marketcircle Inc.](#), (8 months total)
A software company developing business applications for the Apple platform, with 200k+ clients.

As Web Developer, Jan. - Apr. 2011 (4 months)

- Wrote a marketing analytics engine; used Python, JS; moved company site to Django on own time

As Web Master, May - Aug. 2010 (4 months)

- Maintained company website; used JS, HTML, and CSS; received an Excellent co-op evaluation

Other Projects

[Fly-FISH](#), University of Toronto's fruit fly gene database, June. 2014 - present

- Working with bioinformatics researchers from the [Krause Lab](#) at the University of Toronto
- Rewrote old database and exposed a human interface and a REST API; used Django
- Credited in [paper](#) published in CSHLP Genes & Development [journal](#)

[GitHub Profile](#), Jan. 2011 - present

- Projects include: a game, [Arduino](#) programs, and reverse-engineering tools

Education

Master of Applied Science at University of Waterloo, Jun. 2014 - present
(Expected to graduate in 2017)

ECE 750 *Computer Reasoning* logic, SAT, SMT, symbolic execution, analysis & synthesis

Bachelor of Software Engineering at University of Waterloo, Sept. 2009 - Jun. 2014 (5 years)

ECE 459	<i>Software Performance</i>	OpenMP, profiling, loop unrolling, GPUs, MapReduce, <u>MPI</u>
CS 452	<i>Real-Time Programming</i>	ARM, I/O, scheduling, timing, fault tolerance, performance
CS 486	<i>AI</i>	<u>CSP</u> , hill climbing, naïve Bayes, <u>HMMs</u> , bandits
CS 458	<i>Security & Privacy</i>	overflows, <u>IDSs</u> , [a]symmetric key crypto, k-anon
CS 341	<i>Algorithms</i>	analysis, <u>D&C</u> , <u>DP</u> , graph algorithms, NP-Completeness
CS 343	<i>Parallel Programming</i>	Dekker's/Bakery, monitors, lock-free structures, futures
CS 447	<i>Testing</i>	black/white-box testing, input partitioning, coverity

Other Studies

At IBM	<i>Adv. Compiler Optimization</i>	<u>SSA</u> , pointer analysis, instr. scheduling, register allocation
Stanford AI	<i>Intro to Artificial Intelligence</i>	machine vision/learning, games, filters/localisation, NLP

Community Activities

Percussionist , orchestra@Uwaterloo	Oct. 2009 - present
Drummer , Engineering Jazz Band	Oct. 2009 - present
Member , Radio Amateurs of Canada	Mar. 2012 - present
Engineering Leader , Orientation Week 2010 at the University of Waterloo	Sept. 2010

Awards

AP Scholar with Distinction , College Board	Jun. 2009
University Of Waterloo Merit Scholarship , University Of Waterloo	Sept. 2009
Young Authors' Award, non-fiction piece , Toronto Catholic District School Board	May 2008

+ 15 awards from [Model UN](#) conferences at the municipal and provincial level

My professional interests include software processes, maintainability, and standardisation.
When I'm not coding, I enjoy [3D modeling](#), playing music, playing board games, and running.