

EDUCATION

- **Ohio State University** Columbus, Ohio
Master of Science in Computer Science; GPA: 3.79 2014 - 2018
- **Moscow Institute of Physics and Technology** Dolgoprudny, Russia
Bachelor of Science in Physics; GPA 9.47 out of 10 2010 - 2014

EXPERIENCE

- **Ohio State University** Columbus, Ohio
Research and Teaching Assistant 2014 - 2018
 - **Research Assistant - Event Extraction from Social Media:** Research on event extraction from social media. Using distant supervision by aligning Wikipedia's infobox revision history with historical Twitter data to learn event extractors. Presented a paper *Learning to Extract Events from Knowledge Base Revisions* at WWW2017
 - **Research Assistant - Cyber Event Extraction from Social Media:** Worked on cyber event extraction & forecasting related to IARPA CAUSE. Implemented a cyber-event extraction tool using Hackmageddon data for distant supervision.
 - **Research Assistant - Knowledge Base Forecasting:** Research on forecasting future events and improving past predictions in temporal knowledge bases.
 - **Teaching Assistant - Survey of Artificial Intelligence II:** Grading an advanced course in Artificial Intelligence for mixed class of graduate and undergraduate students.
 - **Teaching Assistant - Introduction to C++:** Teaching C++ to undergraduate students. Involved in lecturing, grading home assignments, and conducting & grading exams and lab sessions.
- **Yandex** Moscow, Russia
Software Intern Summer 2013
 - **Automatic News Cluster Population:** Designed and implemented a system that automatically augments Russian news clusters with relevant foreign news.
- **Moscow Institute of Physics and Technology** Dolgoprudny, Russia
Research Assistant Spring 2013
 - **Research Assistant - Christiansen Filters:** Stochastic numerical simulation of Christiansen filters. The project was presented at a local student conference.

PROGRAMMING SKILLS

- **Languages (Proficient):** Scala, Python, Java, Kotlin, C++
- **Languages (Dabble):** Haskell, Idris, F#, JavaScript, C#
- **Other:** Git, Linux, Machine Learning, Functional Programming, Reverse Engineering

PROJECTS & CONTRIBUTIONS

- **Fuzzball** [scala](#) [python](#): A collection of coverage-guided fuzzing tools using recursive neural networks for Scala and Dotty compilers. Discovered a hundred of different issues in Dotty.
- **Scalaz Team Member** [scala](#): I review pull requests and contribute new code for Scalaz8.
- **Fougerite** [c#](#): Rust Legacy server mod, featuring JavaScript, Python, and C# plugins. Currently maintained by Pluton team. Over 150 plugins developed by a community of 5,000 members.
- **"Lord of the LISP"** [scala](#) [lisp](#): Pure functional interpreter for a Lisp-like language using monadic parser combinators and monad transformers.
- **Leibniz** [scala](#): Library with proposition-as-types subtyping and inhabitation combinators.
- **Newtypes** [scala](#): Library implementing newtypes in Scala.
- **Polymorphic type library** [scala](#): Library implementing polymorphic values in Scala.
- **TraceHash** [scala](#) [java](#): Library for stable hashing of exception signatures on JVM.
- **Semantic search for OSU Club database** [python](#): As part of OSU HACK AI hackathon built a semantic search & categorization system for OSU Club database using word embeddings. Won 1st place out of a dozen teams.
- **ActionScript 2 Deobfuscator & Code Injector** [actionscript](#) [python](#): Deobfuscator based on abstract interpretation with constant folding. Used to successfully reverse engineer an obfuscated hash code algorithm in an online game client.
- **Scala IO monad library** [scala](#): Yet another IO monad implementation. At the time of inception it offered the highest performance IO monad in Scala.
- **Subcategories in Scala** [scala](#): Attempt at porting SubHask and category-extras to Scala.
- **N-Body simulator** [c++](#): N-Body simulator with exact solutions for close approaches.
- **Blowmorph** [c++](#): Top-down cross-platform 2D multiplayer shooter.
- **WinConGfx** [c++](#) [windows](#): Super fast ASCII graphics library in C++ for Windows terminal.
- **WinSock Sniffer** [c++](#) [windows](#): WinSock sniffer using code injection. A DLL is injected into a running process, and communication is established using named pipes.
- **IMAT** [c++](#) [windows](#): Image manipulation and analysis toolkit. Was used in research papers on lacunarity & fractal measures applied to object distribution analysis.
- **C++0x Contracts** [c++](#): Tiny library supporting some of the features of Eiffel Contract programming, preconditions, postconditions, and invariant conditions.
- **... and many others:** See my other open-source projects at my GitHub and BitBucket.