

Software Engineering 18+ years, Applied Math, Machine Learning, AI Safety

SKILLS

- ML: Python, PyTorch, NumPy, pandas, Lightning, other.
- SE: C#, Python, JavaScript, bash, PowerShell, HTML/CSS/XML, C.
- DB / Cloud: SQL Server, SQLite, other; Azure.
- Algorithms & data structures. Design. Testing (unit / integrated / UI tests, TDD, mocks, other).

EMPLOYMENT

ML Engineer	AI Safety Camp - Inducing Human-Like Biases	Mar 2023 - Present
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- Processed fMRI datasets (GBs of raw data) to prepare it for fine tuning language models. Set up deployment environments on Google Cloud Platform, Google Colab. Writing code for fine tuning language models and conducting experiments. Technologies: Python, bash, PyTorch, Lightning, Jupyter, Tensorboard, ssh, Docker.

Senior Developer	ProWritingAid	June 2020 - Dec 2022
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- Built an images generation service for weekly emails increasing active subscribers by 146% in 6 months, 40-50GB in 2-4hrs. Docker, Node.js, Express.js, C#, .NET TPL, Azure App Service, Azure SQL, Azure Storage.
- Implemented handling of IN rupee currency in the payment subsystem. Used in 1.8-2% of payments.
- Decreased running time for automatic tests by 30-40% with 0.23-1.8hrs saved each day.
- Maintenance of ETL jobs: 10-15 performance and reliability issues solved (out of memory, timeouts, concurrency, etc.).
- Implemented affiliate referrals program (details under NDA).

Senior Developer	Gameo (Switzerland) (Remote)	July 2011 - Aug 2018
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GameoEmergency 3, Fall 2013 - Aug 2018. A system for emergency situations monitoring.

- Implemented ~200 scenarios using C# and SQL that lead to doubling the number of users within 2 years, new contracts for another 10K users and winning the SFR award in 2017.
- Reduced response time from 1s to 20ms for API messages by developing async processing using Azure Web-Jobs and a message queue.
- Assembled Continuous Integration and Delivery using TFS, Azure RM, MSBuild, PowerShell and Python with ~400 unit tests (xUnit, Moq), 18 acceptance and integration tests (Selenium, SpecFlow) that resulted in reducing manual work time from 1h to 10min for each deployment.

GameoEmergency 2, July 2011 - Fall 2016:

- Developed a live dashboard using C# and SQL to analyze usage of the system by 1500 users.
- Resolved 124 issues: new features, bug fixing and system administration.
- Automated deployment using CruiseControl.NET and MSBuild reducing 8hrs of manual work to 1h.

Senior Developer	The Federal Treasury (Russia) (Remote)	July-Aug 2014
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Rapidly developed a document management system from scratch with 32 pages and reports, 13K LoC, 225 classes, 62 unit tests using C#, SQL, JavaScript, HTML and CSS.

Senior Developer	Plant Taxonomy Web (USA) (Remote)	Jan 2012 - Oct 2013
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Built a prototype for a wiki with a graph (taxonomy) for ~15K species using C#, JavaScript, HTML and CSS.

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Senior Developer	Ncube, Inc. (USA) (Remote)	Falls 2012 - 2013
Developed a tool for localization of ASP.NET apps using C#, CoffeeScript, PowerShell, WinService and RavenDb.		
Senior Developer	Devacon (Germany) (Remote)	Falls 2010 - 2011
Built a reporting tool for hospitals from scratch using VB.NET, HTML, CSS and VB6.		
Developer	Reksoft (Saint-Petersburg, Russia)	Summers 2006 - 2010
<ul style="list-style-type: none"> • Citibank, Russia, 2009-10. ERP - Built several components using C# and WinForms for a currency control unit. • Francotyp-Postalia, 2008. Franking machine cliché editor - Developed an object model and UI (C# and WPF). • If P&C Insurance, 2006-07. CRM - Built an insurance calculator using JavaScript. Implemented two insurance modules using C#. 		
Developer	Amur Jewelry Factory (Khabarovsk, Russia)	Summers 2005 - 2006
<ul style="list-style-type: none"> • Built Windows and Web apps with a jewelry catalog using VB.NET. Automated business processes using VBA. 		

EDUCATION

	Online courses and self-paced study	2005 - present
<ul style="list-style-type: none"> • ML Safety Scholars: courses in ML, DL, ML Safety (Summer, 2022). • Discrete Math (stepik.org, SPb Academic Uni.) (2016). Algorithms: Data Structures (2016) (Python). Programming C++ (2016). Operating systems (2016). Intro to Python (2016). Calculus I (2017). Algorithms: Methods (2017). Introduction to Linux (2019). Linear algebra (2019-2020). Calculus II (2020). Probability theory (2020). Machine Learning (coursera.org, Stanford) (2019) (Octave). System Design Primer (2018-19). Algorithms, part I, II (coursera.org, Princeton Uni.) (2015-17) (Java). Current (unfinished): UMich Deep Learning for Computer Vision, Practical Deep Learning, AI Alignment Curriculum, Deep Learning Curriculum • Mastering algorithms and data structures. Solved +1000 problems using C, Python, C#, F#, other. 		
Khabarovsk, Russia	Far Eastern State Transport Uni.	2000 – 2005
<ul style="list-style-type: none"> • B.S. in Applied Mathematics. Institute of Natural Sciences. May 2005. GPA: 3.86 / 4.0. • Specialist degree: Translator in the Sphere of Professional Communication. May 2004. GPA: 3.6 / 4.0. 		

PROJECTS

	Pet projects and contributions
<ul style="list-style-type: none"> • ML Safety Scholars. Safe MNIST Classifier project (Summer, 2022): calibration, adversarial robustness, anomaly detection. PyTorch, NumPy, pandas. https://github.com/artkpv/safe_mnist_classifier • Plain text accounting system for my finances (2016-present). HLedger, Python (pandas), bash, csvkit. • Information retrieval system (a web search tool) and a web crawler (2020-2021). C#.NET. • Dinning philosophers using .NET (TPL, sync structures, other) (2019). https://habr.com/ru/post/447898/ • .NET Core (open source) (2017-2018). Accelerated regular expressions 5.5 times (40K calls with 1.6K unique) for a cloud environment by engineering a multithreaded LRU cache using C#. Consolidated 4 modules (System, System.Environment and others) by refactoring ~350 LoC in C#. 	

AWARDS

<ul style="list-style-type: none"> • The Effective Altruism Introductory Program, April 2022 • Fluent in English: C1 (Advanced) CEFR, July 2022: https://certs.duolingo.com/6a984c2c709f518792e1d3e9a9be36a0 • Toastmasters International - Completed 15 projects (public speeches, leadership roles), 2017-19. Member Number: 6730340. • Awarded Generalist at StackOverflow (id 511144) among 1K users out of 1.6M active. • Microsoft Certified Solutions Developer (MCSD): Web Application, Jan 2016. MCP/MTA: Software Development Fundamentals, Nov 2013. 	
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