

ANTON KOLONIN

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OBJECTIVE: Leading analysis, design and development of distributed AI applications.

SKILLS SUMMARY

LANGUAGES:

Java, Python, C++, C, C#, SQL, UML, XML, HTML/DHTML/CSS, Visual Basic, JavaScript, PHP, Lisp, Gupta SQL-Windows, Transact-SQL, PL-SQL, Pascal, Dbase, FoxBase, Clipper, Clarion, COBOL, Fortran, Assembler, Conversagent BuddyScript, Perl, PHP.

SOFTWARE:

JDK, Microsoft Visual Studio, GCC/G++, Sun Forte Workshop, Borland C/C++, Watcom C++, InstallSHIELD, Gupta SQL-Windows, ER-Win, Rational Rose, Bachman CASE, Microsoft Office, Visio Drawing, Together J, Conversagent, Apache HTTPD, Tomcat, IIS, Verity K2, Visual Cafe, JBuilder, Kawa, Eclipse, Visual Source Safe, SVN, CVS, GIT, Allegro Lisp, Drupal, Link Grammar.

TECHNOLOGIES/PROTOCOLS:

TCP/IP, SMTP, HTTP, CGI, RMI, XML DOM/SAX, ODBC/JDBC, Ajax, ActiveX/COM/DCOM, DirectX, SmartHeap, STL, MFC, WIN32, J2EE, Java 3D, ASIO, Windows Mobile, Android, JQuery, Amazon Cloud, Google Cloud

DATABASE:

Oracle SQL Server, MS/SQL Server, MySQL, Postgre SQL, Interbase SQL Server, C-Tree, Btrieve, Allegro Cache OODB, MongoDB

OS:

WINDOWS 95/98/2000/NT/XP/CE/Mobile, UNIX (Linux, Solaris, FreeBSD, AIX, Android, Mac OS X, RHEL/CentOS, Ubuntu)

OTHER:

OOA/OOD, data/signal processing, 2D/3D graphics, mobile technologies, artificial intelligence, pattern recognition, data mining, machine learning, natural language processing, genetic programming, neural nets, business/financial accounting, native Russian, fluent spoken English, remote communication skills and experience.

EXPERIENCE:

Novosibirsk State University, RU

<https://www.nsu.ru>

Sep/2018 – Current

Senior Lecturer at Chair of Computing Systems, MMD, NSU

- Course description: «Application aspects of social data processing» («Social intelligence technologies» or «Social computing»).

SingularityNET, Netherlands

<https://singularitynet.io>

Jul/2017 – Current

Artificial Intelligence and Blockchain Architect

- Leading project for “Unsupervised Language Learning” targeting reconstruction of formal grammars and ontologies from unannotated text corpora using various artificial intelligence techniques as open source framework <https://github.com/singnet/language-learning>.
- Leading project for “Reputation Systems” targeting creation of an open-source reputation computation platform <https://github.com/singnet/reputation> applied to online marketplaces for scam prevention and to blockchains for reliable consensus solution.
Python, Java, Link Grammar, Linux environment.

Aigents, RU

<http://aigents.com>

May/2014 – Current

Founder / CTO / Product Owner

- Management of research, development, marketing and business activities for privately owned project – creation of distributed semantic web search and social knowledge sharing platform.

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- Invention, design and development of architecture and technology of distributed multi-agent system for text analysis and extraction and distribution of structured information on the internet — based on semantic analysis and machine learning algorithms.
- Creation of software agents (server, client and peer-to-peer components) for Mac OS X, Windows, Linux, Android and Web platforms as an open source <https://github.com/aigents> project.
- Development of IT infrastructure and management of it including deployment of «cloud» clusters, security audit and data protection setup.
- Preparation of papers, white-papers and presentations, execution of demonstrations and show sessions on conferences and via youtube.com.

Java, Android, JavaScript/JQuery, Windows/MacOS/Android/Linux environments.

Sberbank-Technologies <https://sber-tech.com/> **Apr/2016 – Jul/2017**

Manager of Software Development

- Development of the software for automation of internal processes in banking business.

Java, Java Spring, JavaScript, Oracle, XML/WSDL, Windows environment.

Novel Software Systems <http://nprog.ru/> **Mar/2015 – Mar/2016**

Software Engineer

- Development of client side and server side parts of graphical framework for visualization of bio-medical data.
- Development of client side and server side parts of text searching framework for handling bio-medical data.

Java, Java Spring, JavaScript, Java Server Pages, Oracle, JSON/REST, CentOS Linux environment.

ZdorovieOnline, RU <http://zdorovieonline.ru> **Feb/2012 – May/2014**

CTO / Project Manager

- Management of the development process and all technical aspects of company operations, 5 reports.
- Research activities, architectural analysis and design of public online healthcare product implemented as cloud service.

PHP, MySQL, JavaScript, Amazon EC2/S3, CentOS Linux environments.

Quest Software, US <http://quest.com> **Sep/2009 – Feb/2012**

Software Development Manager / Product Lead

- Management of the Russian branch of international software company, 12 direct reports.
- Management of the FastRecover product development for enterprise-level Data Protection and Disaster Recovery, involving coordination of multiple development and QA sites, 25 direct and indirect reports.

Microsoft Visual Studio C/C++, GCC/G++, JavaScript, PHP in Windows 32/64-bits and CentOS/RHEL Linux environments.

Academsoft, Russia <http://navitel.su> **Feb/2009 - Sep/2009**

Developer

- Invention and development of algorithms and software for structural and textural optimization of 3D-models for computer graphics.
- Porting of geo-positioning software from Win32/WinCE to Linux environments.

Microsoft Visual Studio C/C++, GCC/G++, SDL, OpenGL, J2EE, SVN, 3DSMax, Deep Exploration, in Win32/WinCE and Kubuntu Linux environments.

Positive Solutions, Russia <http://www.gigafone.com> **Feb/2008 - Feb/2009**

Project Manager

- Managing development and delivery of mobile client-server platform, coordinating the Product Management, Design, Development, Deployment and Support within distributed team of five international subsidiaries in Russia, China, Taiwan and Singapore (several subordinate project/product managers and tens of people).

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Symbian C, Windows Mobile C#, J2EE, WebLogic, Apache, Microsoft Office/Project, SVN/CVS, in Windows and Linux environments.

IT Solutions, Russia

<http://itso.ru>

Apr/2005 - Feb/2008

Lead Architect/Developer

- Design and development of text and data mining solutions and server backend text mining web service for medical industry in US, in a distributed international team building integrated content management system.
- Design and development of web interface and middleware layer (extension of Apache and IIS web servers) for cross-platform HR automation system widely used in England, involving legacy code reengineering and implementation of custom Ajax framework for Internet Explorer, Mozilla/Netscape and Safari browsers. Leading team of two people.
- Design and development of SpaceWork - software 3-D graphics system for different types of scientific, geological and geophysical data visualization in a distributed web environment, constrained with limited Java API supported by web browsers (<http://itso.ru/>).

Lisp, Java, Postgre SQL, C/C++, C-Tree, JavaScript, DOM, Ajax, Apache HTTPD, IIS API, SMTP, TCP/IP, CVS, SVN in Windows and Linux environments.

EPAM Systems, US

<http://www.epam.com>

Nov/2001 - Apr/2005

Lead Analyst/Engineer, Team Leader, Product Manager

- Design and development of conversational (chat bot) interface for Knova knowledge management (text and associative search) architecture.
- Design and development of text mining and information retrieval (classification and entity extraction) toolkit for Reuters.
- Specification, design and leading development of the text and data mining framework - Knowledge Discovery Engine (integrated framework for interactive and automatic knowledge acquisition from the corporate content) for Knova.
- Research, analysis, design and development of Cognitive Processor -- kernel component of knowledge server used in integrated knowledge management and semantic search architecture for ServiceWare (<http://www.serviceware.com>) and then Knova (<http://www.knova.com/>), involving development of portable multithreading and internationalization API layers (wrapper upon Win32 and Unix/Posix APIs).

C/C++, Java, C#, JNI, XML, Microsoft Visual Studio, Win32, GCC/G++, Sun/Forte Workshop, Conversagent BuddyScript, Source Safe, Verity, Inxight, Tomcat, Apache and IIS Web Servers, MS SQL Server and Oracle in Windows 2000/NT, AIX and Solaris environments.

ServiceWare Inc., US

<http://www.serviceware.com>

Apr/2001 - Oct/2001

Software Developer

- Research, analysis, design and development of Cognitive Processor -- kernel component of knowledge server used in integrated knowledge management and semantic search architecture, involving development of portable multithreading and internationalization API layers (wrapper upon Win32 and Unix/Posix APIs).

C/C++, Java, C#, JNI, XML, Microsoft Visual Studio, Win32, GCC/G++, Sun/Forte Workshop, in Windows 2000/NT, AIX and Solaris environments.

Intelligence Inc, then Webmind Inc., US

Mar/1999 – Apr/2001

Senior Research Engineer, Team Leader

- Analysis, design and development of different components of distributed artificial intelligence system intended for search, classification, information retrieval, text and data mining - using artificial intelligence technologies. Leading team of two people.

Java, UML, RMI, Java Swing, Java Mail, Java 3D, Objectspace JGL, HTML, XML, CVS, Together J, Visio Drawing, Microsoft Office in Linux and Windows 98/2000/NT environments.

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ProPro Group, Russia<http://propro.ru/>

Dec/1997 – Mar/1999

Software Analyst/Engineer, Team Leader

- Design and development of all components of a 3-tier trading back-office automation system for RTS (<http://www.rts.ru/>). Designed and developed object-relational mapping system engine with embedded proper language ORL (<http://www.webstructor.net/docs/orl/index.html>) interpreter and processor for GUI forms and queries. Leading team of two people.
- Design and development of motion tracking (dynamic pattern recognition) algorithm and software intended to capture motion of selected objects with real-time streamed video data, involving algorithmic optimization of floating point calculations
- Design and development of Visual Knowledge Management and Distributed Knowledge Sharing Environment - peer-to-peer distributed system for knowledge input and visualization. Entire system consists of loosely connected servlets, applets, client, server and peer-to-peer applications maintaining distributed semantic net of knowledge (<http://www.webstructor.net/>).

C++, SQL, UML, Visual Basic, MFC, WIN32 SDK, ODBC, COM, DCOM, ActiveX, OLE, RMI, MS SQL Server, Java, Sun JDK, JDBC, TCP/IP, CGI, Servlets, HTML, LISP, Visual Cafe, Kawa, Rational Rose, ERWin, Visio Drawing, Microsoft Office in Windows 95/98/NT environment.

CTC Company, Russia

Sep/1993 – Nov/1997

Software Analyst/Engineer, Product Manager, Project Manager

- Design and development of multimedia educational program for kids to let them learn mathematics by watching interactive movies and solving drills. Leading team of two people.
- Design and development of scaleable business financial and production accounting system for complete financial and production accounting for small businesses. System includes inventory, payroll, accounting, general ledger, etc. with customizable account charts, forms, dictionaries and report writer. Leading team of two people.
- Design and development of interactive visual programming system - to let people organize and process information visually and easily having no programming background. System includes data modeling, flexible database, spreadsheet and report-writing features.
- Design and development of 3-tier distributed transactions processing (telecommunication, billing) system for cashless plastic card payments processing. Leading team of 4 people.
- Design and development of modem driver software for robust communication in low signal/noise environments.
- Design and development of tape storage driver software.
- Design and development of series of keyboard drivers (for MS DOS) for different software localization and accessibility improvements.

C, C++, Java, Assembler, SQL, HTML, UML, Dbase, FoxBase, Clipper, Clarion, WIN32 SDK, JDK, JDBC/ODBC, OLE/COM/ActiveX, DirectX, TCP/IP, Visual Cafe, Watcom C++, Borland C/C++, InstallSHIELD, MS/SQL Server, Interbase, Btrieve in Windows 95/98 environment.

BEZ Systems, US<http://www.bez.com/>

Mar/1993 – Sep/1993

Software Engineer

- Design and development of converting tool taking input from internal files of different CASE tools, COBOL/SQL or raw SQL DDL/DML files, scanning/parsing them, building an application model in memory and storing the model into internal data format. Includes formal input/output formal syntax specifications processing engine and PROLOG/SQL-alike rule-based translator.

C, SQL, COBOL, Gupta SQL-Windows, Bachman CASE, in Windows 95/98 and OS/2 environments.

Chita Polytechnic Institute, Zabaikalsky Complex Institute

Aug/1987 – Mar/1993

Senior Research Staff, Senior Lecturer

- Design and development of OS-level support for virtual graphics system under MS DOS, including virtual memory management and file I/O operation layers
- Invention of geophysical numeric data processing and analysis algorithms using computer tomography principles, design and development of Geotomo - geophysical tomography data

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processing system (<http://itso.ru>), involving algorithmic optimization of floating point calculations at CPU instructions (Intel 8086 Assembler) level

- Invention of optical character recognition algorithm, design and development of optical character recognition software

C, Pascal, FORTRAN in MS DOS and DEC environments.

EDUCATION:

- Ph.D. in Computer Science (Computer Tomography), Institute of Mathematics, Siberian Branch of Russian Academy of Science (1997 - 1998)
- Honored BS in Geophysics, S-Petersburg Mining Institute, Russia (1982-1987)

PUBLICATIONS:

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57021892200>

16 publications, 30 citations, h-index: 4

1. Kolonin, A.: "Controlled Language and Baby Turing Test for General Conversational Intelligence", arXiv:2005.09280 [cs.AI], 2020, <https://arxiv.org/abs/2005.09280>
2. Kolonin, A.: "Generalized Reputation Computation Ontology and Temporal Graph Architecture", Proceedings of "Knowledge-Ontologies-Theories" conference (KONT-2019), Novosibirsk, Russia, 2019, <https://arxiv.org/abs/1912.00176>
3. Kolonin, A.: "Latent Semantic Search and Information Extraction Architecture", Proceedings of "Knowledge-Ontologies-Theories" conference (KONT-2019), Novosibirsk, Russia, 2019, <https://arxiv.org/abs/1912.00180>
4. **Glushchenko, A., Suarez, A., Kolonin, A., Goertzel, B., Baskov O.: "Programmatic Link Grammar Induction for Unsupervised Language Learning", In: Hammer P., Agrawal P., Goertzel B., Iklé M. (eds) Artificial General Intelligence. 12th International Conference, AGI 2019, Shenzhen, China, August 6-9, 2019 Proceedings, pp. 111-120, 2019**
5. Kolonin, A., et.al.: "A Reputation System for Multi-Agent Marketplaces", arXiv:1905.08036 [cs.MA], 2019, <https://arxiv.org/abs/1905.08036>
6. Kolonin, A., et.al.: "A Reputation System for Marketplaces - Viability Assessment", arXiv:1902.03857 [cs.SI], 2019, <https://arxiv.org/abs/1902.03857>
7. Kolonin, A.: "Reputation System for Online Communities" (in Russian), arXiv:1811.08149 [cs.SI], 2019, <https://arxiv.org/abs/1811.08149>
8. **Kolonin A.: "Reputation Systems for Human-Computer Environments", In: Complexity, Informatics and Cybernetics: IMCIC 2019, conference materials, Orlando, Florida, USA, 2019**
9. **Glushchenko, A., Suarez, A., Kolonin, A., Goertzel, B., Castillo, C., Leung M., Baskov O.: "Unsupervised Language Learning in OpenCog", In: Iklé M., Franz A., Rzepka R., Goertzel B. (eds) Artificial General Intelligence. AGI 2018. Lecture Notes in Computer Science, vol 10999. Springer, Cham, 2018**
10. **Kolonin, A.: "Resource-Constrained Social Evidence Based Cognitive Model for Empathy-Driven Artificial Intelligence", In: Iklé M., Franz A., Rzepka R., Goertzel B. (eds) Artificial General Intelligence. AGI 2018. Lecture Notes in Computer Science, vol 10999. Springer, Cham, pp 100-108, 2018**
11. Kolonin, A.: "Representing scenarios for process evolution management", arXiv:1807.02072 [cs.AI], 2018
12. Kolonin, A., Goertzel, B., Duong, D., Ikle, M.: "A Reputation System for Artificial Societies", arXiv:1806.07342 [cs.AI], 2018
13. **Kolonin, A.: "Personalized Social Connectivity and Reputation : Monitoring Dynamics in Online Networks with Aigents Platform", Future of Information and Communication Conference (FICC), Singapore, 2018**
14. **Kolonin, A., Shamenkov, D., Muravev, A., Solovev, A.: "Personal analytics for societies and businesses with Aigents online platform", 2017 International Multi-Conference on Engineering, Computer and Information Sciences (SIBIRCON) - Conference Proceedings, 2017**

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15. Kolonin, A.: "Architecture of Internet Agent with Social Awareness", **Biologically Inspired Cognitive Architectures (BICA) 2017 - Conference Proceedings, 2017**
16. Kolonin, A.: **Assessment of personal environments in social networks, Proceedings of 2017 Siberian Symposium on Data Science and Engineering (SSDSE), Novosibirsk, 2017**
17. Kolonin, A.: **Adaptive experiential learning for business intelligence agents, Cognitive Sciences, Genomics and Bioinformatics (CSGB) - Symposium Proceedings, 2016**
18. Kolonin, A., **Studying human social environment and state with social network data", Cognitive Sciences, Genomics and Bioinformatics (CSGB) - Symposium Proceedings, 2016**
19. Kolonin, A., Vityaev, E., Orlov, Y.: **Cognitive Architecture of Collective Intelligence based on Social Evidence, 7th Annual International Conference on Biologically Inspired Cognitive Architectures, BICA 2016, July 2016, NY, USA**
20. Kolonin, A.: **Automatic text classification and property extraction. 2015 SIBIRCON/SibMedInfo Conference Proceedings, ISBN 987-1-4673-9109-2, pp.27-31**
21. Kolonin, A.: **Computable cognitive model based on social evidence and restricted by resources. 2015 SIBIRCON/SibMedInfo Conference Proceedings, ISBN 987-1-4673-9109-2, pp.41-45**
22. Kolonin, A.: **Intelligent Agent for Web Watching : Belief System and Architecture. Proceedings of "Knowledge-Ontologies-Theories" conference (KONT-2015), 2015, Novosibirsk, vol.1**
23. Kolonin, A.: **Agent Language for communication between humans and computer agents. Proceedings of "Knowledge-Ontologies-Theories" conference (KONT-2015), 2015, Novosibirsk, vol.1**
24. Kolonin, A.: **Distributed Knowledge Engineering and Evidence-based Knowledge Representation in Multi-agent Systems. Knowledge Engineering and Semantic Web, 6th International Conference, Moscow, Russia, 2015, p.291**
25. Kolonin, A.: **Personal Agents for Social Intelligence. Knowledge Engineering and Semantic Web, 6th International Conference, Moscow, Russia, 2015, p.283**
26. Kolonin, A.: **Machine learning for software agents working with natural language texts. Control Engineering Russia N3 (57) (2015)**
27. Kolonin, A.: **Intelligent Agent for Web Watching : Language and Belief System. Проблемы Информатики, Новосибирск (2015)**
28. Kolonin, A.: **The Emerging World Wide Mind. Artificial General Intelligence conference. Beijing (2013)**
29. Kolonin, A.: **High-performance automatic categorization and attribution of inventory catalogs. Proceedings of All-Russia conference Knowledge Ontology Theories (KONT-2013), Novosibirsk, Russia (2013)**
30. Kolonin, A.: **Seismic tomography using the amplitudes of seismic waves. - Russian Geophysical Journal, Saint Petersburg, Russia, 25-25, pp. 12-18 (2002)**
31. Kolonin, A.: **Seismic tomography technique for diamond pipes prospecting. - SEG Technical Program Expanded Abstracts, <https://doi.org/10.1190/1.1820784> (1999)**
32. Романов М.Е., Колонин А.Г. **Криволинейно-лучевая кинематическая и амплитудная сейсмотомография. - Новосибирск: ИМ СО РАН, 1997. - 40с.**
33. Колонин А.Г. **Комплексная лучевая геотомография. // Сборник тезисов международного совещания по геотомографии "Геотомография-92"/под ред. А.Ф.Буянова/ Апатиты: ГИ КНЦ РАН. 1992 г., 2 стр.**
34. Колонин А.Г. **Комплексная волновая геотомография. // Сборник тезисов международного совещания по геотомографии "Геотомография-92"/под ред. А.Ф.Буянова/ Апатиты: ГИ КНЦ РАН. 1992 г., 2 стр.**
35. Колонин А.Г. **Волновая томография в приближении однократного рассеяния. Печат.//Сборник тезисов международного совещания по геотомографии "Геотомография-92"/под ред. А.Ф.Буянова/ Апатиты: ГИ КНЦ РАН. 1992 г., 2 стр.**
36. Колонин А.Г. **Эмиссионная томография излучающих геологических объектов. // Сборник тезисов V Всесоюзного симпозиума по вычислительной томографии. Москва, НПО "ВНИИФТРИ", 1991 г., 2 стр.**

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37. Колонин А.Г. Геофизическая дифракционная томография. // Прикладная геофизика, МГ СССР ВНИИГеофизика, 1990г., 6стр.
38. Колонин А.Г. Дифракция на трехмерных изометричных неоднородностях. // Физика Земли. АН СССР, ИФЗ, 1990г., 8стр.
39. Колонин А.Г. Автоматическая обработка данных просвечивания // Передовой науч.-произв. опыт / ВИЭМС. - М., 1989. - Вып.7. - С. 3-6.
40. Колонин А.Г., Кашмин Г.И. Электромагнитная томография при разведке рудных месторождений. // Сборник тезисов IV Всесоюзного симпозиума по вычислительной томографии. Ч.-П, Ташкент, 1989 г., 2 стр.
41. Колонин А.Г. Сейсмическая динамическая отражательная томография. // Сборник тезисов IV Всесоюзного симпозиума по вычислительной томографии. Ч.-П, Ташкент, 1989 г., 2 стр.
42. Колонин А.Г. Динамическое обращение импульсных сигналов в геотомографии. // Сборник тезисов IV Всесоюзного симпозиума по вычислительной томографии. Ч.-П, Ташкент, 1989 г., 2 стр.
43. Kolonin, A.: Possibility of using transmission seismic waves for local inhomogeneities localization. - Geology and Geophysics, Novosibirsk, Russia, V.3, pp.101-110 (1988)

PERSONAL INFORMATION:

DOB: February 12, 1965

Married, two children

Hobbies: country-western and ball dancing, hiking, skiing, wind-kite-surfing, literature.