

Curriculum Vitae

Name: Kozhekin (*older French-style spelling is Kojekine*) Nikita
(AKA Kitya Karlson)

Qualification: Ph.D. in Engineering

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Mail address (home.): Nishi-oi 4-6-10-102, Shinagawa-ku,
140-00015, Tokyo, Japan

Birth date: 11.11.1978

Citizenship: Russia

Languages: Russian, English; basic French, elementary Japanese

Martial status: married



Work experience

November 2004 - now

lead software developer in Secured Infrastructure Design Corporation (S.I.D.C.) K.K.
(<http://www.sidc.net/>), development of a web portal software <http://www.security-sensei.com/>
(php, postgresql), security consulting, online payment system, internal project management
system and report generation tool (mysql), online security education modules (flash, php),
COREanalyser windows security audit tool (C#) and other projects.

July 2003 - November 2004

researcher in JST (Japan Science and Technology Corporation), project - "New Generation
CG/CAD System", Tokyo Institute of Technology, Tokyo, Japan.

March 2004

Lecturing on HTML/JavaScript for web design in Middle-East Technical University, Ankara,
Turkey (supported by NATO grant).

June 2000 - October 2000

Department of programming chief at Russian Internet Investment Company NetBridge (now
merged with Mail.ru), Moscow, Russia.

Main activity: managing various web projects of the company.

1999 - June 2000

leader programmer at Russian Internet Portal Port.ru (now Mail.ru), Moscow. Russia.

Main activity: managing web publication system development.

1998 - 2000

security consultant in Russian ISP NewComPort, Moscow, Russia. building ISP.

Main activity: system administration, system's security assurance.

In the period from 1998 to 2004 I was also taking part in various contract and part-time jobs,
including contracts with JST (Japan Science and Technology Corporation, Tokyo, Japan), BhB
(International Travel Agent, Tokyo, Japan), Eken K.K. (Internet business, Tokyo, Japan), Andersen
Consulting (International Consulting Company, Moscow Office, Moscow, Russia), and several
others. I have strong skills in software development for Internet, using
PHP/Perl/HTML/CSS/JavaScript (for example, my JavaScript [Japanese Input Module](#) was used in
some GPL projects, including [Squirrel Mail](#))/ Mozilla (extensions development, see, for example,

this), and 3D/2D Graphics Software, using C/C++(STL/MFC/), C#, Java, Pascal. I have also a good experience with scripting languages, including Tcl, Bash, sed, awk and others, and a Unix/Linux system administration skills (I'm a Linux enthusiast and my experience includes taking part in the development Russian/Ukrainian KSI-Linux Distribution Project).

Education

October 2000 - June 2003

Doctor Course Student at Tokyo Institute of Technology. Computer Aided Design and Graphics. Got Ph.D. in Engineering from Tokyo Institute of Technology in June 2003. Thesis "Computer Graphics and Computer Aided Geometric Design by means of Compactly Supported Radial Basis Functions". During my Doctor Course time (2.5 years) my research was two times selected by the VBL (venture business laboratory) and got financial support.

1995 - July 2000

Student Faculty of Computer Science and Applied Mathematics (VMiKa) Moscow State University (MSU).

Got master degree in computer science in July 2000.

1992 - 1995

Moscow State Mathematical School #57.

1991 - 1992

Rehovot Lyceum Deshalit (Israel).

1990 - 1991

Grenoble Lycee Stendhal (France).

1985 - 1990

Moscow State School # 407.

Selected Publications and Patents

My main research work is devoted to 3D geometrical modeling. During my work I developed algorithms and software for 3D polygonal objects modification, surface retouching for laser-scanned objects, surface reconstruction and blending, smoothing and fast animation technique for video games. A novel technique for collision detection, using physical-based of sensor particles (analogous to electric charges) that allows complete parallelism even for deforming objects was also developed.

Some of the 3D geometrical modeling methods developed were also applied to 2D image processing, combining these two closely related subjects. Among other things fast 2D facial animation software was developed. Japanese and US patents were obtained for image reconstruction and scaling using CSRBFs, also an Adobe Photoshop plug-in for retouching (removing small scratches, letters and such) images was developed.

Some images and test programs about my research are available on <http://www.karlson.ru/csrbf/>.

Most part of my research was done in collaboration between the Design-based production laboratory of The Faculty of Mechanical Engineering of The Tokyo Institute of Technology (prof. I.Hagiwara) and The Computer Graphics Laboratory of The Hosei University (prof. V. Savchenko).

My other interests include Web design and Internet software and web systems development, Linux/UNIX systems and MS Windows desktop applications development, some publications to the end of this list mention those topics. I'm also currently working as a contributing author (new software and hardware reviews) with several high-tech journals (including PC-Mobile Russian edition and several others). Complete list of publications is available on demand.

Theses:

1. **Nikita Kojekine**, Computer Graphics and Computer Aided Geometric Design by means of

Compactly Supported Radial Basis Functions, *Ph.D. Thesis*, June 2003.

2. **Nikita Kojekine**, Development of an evolutionary information system WebOS to support all-round automation of a large enterprise using active user desktop, on the basis of dynamic web site, *M.S. Thesis*, June 2000.

International journals:

3. **Nikita Kojekine**, Ichiro Hagiwara, Vladimir Savchenko, Software Tools Using CSRBFs for Processing Scattered Data, *International journal "Computers & Graphics" published by Elsevier Science*, 27/2 (2003) pp. 309-317.
4. **Nikita Kozhekin**, Vladimir Savchenko, Michail Senin, Ichiro Hagiwara, An Approach to Surface Retouching and Mesh Smoothing, *International journal "The Visual Computer"*, A20977, Volume 19, Number 7-8, December 2003, pp. 549-564.
5. **Nikita Kozhekin**, Yuki Taniguchi, Ichirho Hagiwara, Vladimir Savchenko, Using CSRBF for surface retouching, IPSJ (Information Processing Society of Japan) Journal, 2004 (in japanese).
6. **Nikita Kojekine**, Vladimir Savchenko, Michail Senin, Ichiro Hagiwara, "A prototype System for Character Animation Based on Real-time Deformations", *The Journal of Three Dimensional Images*, Vol. 16, No. 4 (2002/12), pp. 91-95. (this is an improved version of the paper presented at The 5-th International Conference on Humans and Computers HC2002, selected by the referees for publication in the journal).

Chapters in the edited books:

7. Vladimir Savchenko and **Nikita Kojekine**, An Approach to Blend Surfaces, *Advances in Modeling, Animation and Rendering*, J. Vince and R. Earnshaw (eds), Springer, pp. 139-150, 2002. (This paper was presented at the Computer Graphics International CGI2002 conference, organized by Computer Graphics Society (CGS), in Bradford, UK, 1 - 5 July, 2002).
8. **Nikita Kojekine**, Vladimir Savchenko, Ichiro Hagiwara, Surface Reconstruction Based on Compactly Supported Radial Basis Functions in *"Geometric Modeling: Techniques, Applications, Systems and Tools"*, M. Sarfraz (editor), Kluwer Science (An extended version of our Hawaii'2002 conference paper, accepted for this book as one of best papers selected from three events: CAGD Symposium in the International Conference on "Information Visualization" (IV'2001), London, UK, Special Session on Geometric Design and Modeling (GDAM) - CGIM'2001, Hawaii. USA, and Graphical Models And Imaging (GMAI) - (CISST'2001), Las Vegas, USA).

Patents:

9. Hagiwara Ichiro (30%), Vladimir Savchenko (20%), **Nikita Kojekine (20%)**, Masaki Kitagoh (30%), CSRBF and Wavelet method of image compression, Japan patent No. 02-090, Issued on 25 Feb. 2003.
10. Hagiwara Ichiro (30%), Vladimir Savchenko (20%), **Nikita Kojekine (20%)**, Masaki Kitagoh (30%), CSRBF and Wavelet method of image compression, USA patent pending.
11. **Nikita Kojekine (40%)**, Ichiro Hagiwara (40%), Allied Engineering (20%), CAD system data healing, Japan patent No. 03-096, Issued on 2004/02/27.

International conferences proceedings:

12. Mikhail Senin, **Nikita Kojekine**, Vladimir Savchenko, Ichiro Hagiwara, Particle-based Collision Detection, *Short papers proceedings of Eurographics EG2003*, (Spain, Granada, September 1-6, 2003).
13. **Nikita Kojekine**, Vladimir Savchenko, Michail Senin, Ichiro Hagiwara, Real-time 3D

Deformations by Means of Compactly Supported Radial Basis Functions, *Short papers proceedings of Eurographics EG2002*, ISSN 1017-4565, pp. 35-43 (Germany, Saarbrücken, September 2-6, 2002).

14. Olga Egorova, **Nikita Kojekine**, Ichiro Hagiwara, Maria Savchenko, Irina Semenova, Vladimir Savchenko, Improvement of Mesh Quality Using a Statistical Approach, *IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2003)*, vol. 2, pp. 1016-1021 (Spain, Benalmadena, September 8-10, 2003).
15. Vladimir Savchenko, **Nikita Kojekine**, Maria Savchenko, Irina Semenova, Olga Egorova, Ichiro Hagiwara, Mesh Generation and Refinement of Polygonal Data Sets, *2003 International Conference on CYBERWORLDS (CW 2003)*, organized by: School of Computer Engineering, Nanyang Technological University in cooperation with: IEEE Computer Society, ACM SIGGRAPH (Singapore), and Eurographics, pp. 198-205, (Singapore, December 3-5, 2003).
16. Vladimir Savchenko, **Nikita Kojekine**, and Hiroshi Unno, A Practical Image Retouching Method, *Proceedings of The First International IEEE Symposium on Cyber Worlds CW2002*, Japan, Tokyo, November 6-8, 2002.
17. **Nikita Kojekine**, Vladimir Savchenko, Using CSRBFs for Surface Retouching, *Proceedings of The 2nd IASTED International Conference Visualization, Imaging and Image Processing VIIP2002*, Spain, Malaga, September 9-12, 2002.
18. Vladimir Savchenko, Hiroshi Unno, and **Nikita Kojekine**, Possible Techniques for Three Dimensional Hatching, *Proceedings of The First International IEEE Symposium on Cyber Worlds CW2002*, Japan, Tokyo, November 6-8, 2002.
19. **Nikita Kojekine**, Vladimir Savchenko, Dmitrii Berzin, Ichiro Hagiwara, Software Tools for Compactly Supported Radial Basis Functions, *Proceedings of The 4-th Computer Graphics and Imaging International IASTED Conference CGIM2001*, pp. 234-239, ISBN 0-88986-303-2 (Hawaii, USA, August 13-16, 2001).
20. **Nikita Kojekine**, Michail Senin, Vladimir Savchenko, Ichiro Hagiwara, Smooth local deformations and particle based collision detection, *International Workshop on Geometric Modeling, Computing, and Visualization*, Aizu-Wakamatsu, Japan, 12-15 July 2003.
21. **Nikita Kojekine**, Vladimir Savchenko, Michail Senin, Ichiro Hagiwara, A Prototype System for Character Animation Based on Real-time Deformations *Proceedings of The 5-th International Conference on Humans and Computers HC2002*, pp. 82-86 (Japan, Aizu, September, 11-14, 2002).
22. **Nikita Kojekine**, Ichiro Hagiwara and Vladimir Savchenko, Effective application of CSRBF functions for Animation and Surface Retouching, *Proceedings of The 3-rd JSIAM - SIMAI Symposium, Session of Imaging*, (Italy, Chia Laguna, May 27-31, 2002).

National conferences proceedings:

23. **Nikita Kojekine**, Mikhail Senin, Ichiro Hagiwara, Vladimir Savchenko, An Algorithm for Polygonal Surface Stitching, *Proceedings of Computational Engineering Conference*, Vol. 8, (Japan, Tokyo, May 2003).
24. **Nikita Kojekine**, Vladimir Savchenko, Dmitrii Berzin, Ichiro Hagiwara, Computer Graphics Applications based on Compactly Supported Radial Basis Functions Toolkit, *Proceedings of The RIMS symposium*, (Japan, Kyoto, February 13-15, 2002).
25. Dmitrii Berzin, **Nikita Kojekine**, Ichiro Hagiwara, Junichi Shinoda, Finite element mesh generation using subdivision technique, *Proceeding of JSME Design & Systems Conference 2001*, No.01-35 (Japan, Nov. 5-7, 2001).
26. **Nikita Kojekine**, Ichiro Hagiwara, Vladimir Savchenko, Effective tools for scattered data interpolation based on CSRBF, *Proceedings of The 2002 annual conference of the Japan Society for Industrial and Applied Mathematics JSIAM2002* (Japan, Tokyo, September 19-21, 2002).
27. Arzu Gonenc Sorguc, Ichiro Hagiwara, Hiroshi Takahashi, **Kojekine Nikita**, Simulation Of A Car Cruise From Motion History, *Proceedings of The 2002 annual conference of the Japan Society for Industrial and Applied Mathematics JSIAM2002* (Japan, Tokyo, September 19-21,

2002).

28. **Nikita Kojekine**, Vladimir Savchenko, Ichiro Hagiwara, Mesh editing toolkit based on CSRBF, *Proceedings of The 15th Computational Mechanics Conference* (Japan, Kagoshima, November 1-3, 2002).
29. **Nikita Kojekine**, Advances in Computer Graphics in Japan, *Invited talk on The JSME Conference* (Japan, Tokyo, October, 2002).

Journal publications (in russian):

30. **Nikita Kojekine**, Starway of StarOffice, *PC World (IDG Group, Russia)*, #2, Moscow, February 1999.
31. **Nikita Kojekine**, Phone and networking, *PC World (IDG Group, Russia)*, #11, Moscow, November 1999.
32. **Nikita Kojekine**, Internet on speed, *PC World (IDG Group, Russia)*, #10, Moscow, October 2000.
33. **Nikita Kojekine**, SENDMAIL - electronic mail for everyone, *Computerra*, # 24-25 (104-105), Moscow, July 4 1995.
34. **Nikita Kojekine**, UNIX: Do you remember how it started?..., *Computerra*, # 26-27 (106-107), Moscow, July 13 1995.
35. **Nikita Kojekine**, Linux. Do you need it?, *Computerra*, # 28 (108), Moscow, August 21 1995.
36. **Nikita Kojekine**, New Generation is choosing UNIX!, *Monitor*, #1, Moscow, January 1995.
37. **Nikita Kojekine**, Starting to program for X Window, *Monitor*, #2, Moscow, February 1995.
38. **Nikita Kojekine**, Widget hunting, *Monitor*, #4, Moscow, April, 1995.
39. **Nikita Kojekine**, Cassiopea FIVA 2xx serie review, *IXBT*, 27 March, 2002.

Hobbies

My Hobbies include reading fantasy books, blogging (my blog is read by more then 2000 persons), traveling and taking photos.