Yury V. Smirnov
2123 Shady Ave., #A5
Pittsburgh, PA 15217
(412)-268-3076, (412)-963-4287
smir+@cs.cmu.edu
http://www.cs.cmu.edu/afs/cs/user/smir/www/home.html
Visa Status: US.Permanent Resident

EDUCATION

1992-Present **Carnegie Mellon University, School of Computer Science**, Pittsburgh, PA.
Ph.D. program in **Algorithms**, **Combinatorics** and **Optimization.**
Thesis Proposal (June 96): **"Efficiency Analysis in Search Problems"** on cross-fertilization among Artificial Intelligence, Computer Science Theory and Operations Research.

1985-1987 Co-op study at Concern "Leninets", St.Petersburg, Russia.
Candidate Degree in Special-Purpose Computer Systems, equivalent to **MS** in **Electrical Engineering.**
Thesis: **"Applications of Multicriteria Optimization in Designing Special-Purpose Airborne Data and Signal Processors."**

1983-1985 **Leningrad** (**St.Petersburg**) **State University**, St.Petersburg, Russia. **MS** in **Applied Mathematics.**

1978-1983 **Leningrad** (**St.Petersburg**) **State University**, St.Petersburg, Russia. **BS** in **Mathematics. MS** in **Operations Research.**
Thesis: **"High-Order Necessary and Sufficient Conditions of Multicriteria Optima."**

EXPERIENCE

09/92-present

Graduate Researcher, Carnegie Mellon University, Pittsburgh, PA.
Designing Graphical User-Interface for the Robot Planning Animated Software Package, developing novel efficient algorithms for Search in partially or completely unknown domains, implementation of known and newly created search methods, efficient modifications of GSAT for solving satisfiability problems with more than thousand variables.

05/94-present **Intern** in Software Engineering, Westinghouse, Pittsburgh, PA.
Software Maintenance of Westinghouse's Real-Time Software intended for power stations' control and archival units.
Three years of hands-on expirience in WDPF - the Westinghouse Distributed Processing Family: Resolving Standard Deviation

Reports on Graphical User-Interfaces and Remote Procedure Calls; developing new approaches for advanced Computer-User interaction.
* Developing Internationalization for the existing software to support national languages.
* Testing Russian translations of data base entries.
* Search of Russian electronics manufacturers, participating in negotiations and tracking the delivery.
* Meeting delegations that represent Russian/Ukrainian Enterprises and authorities.

07/85-06/92

Senior Engineer, then **Laboratory Chief**, then **Vice Director** of the International Relations Office, Concern "Leninets", St.Petersburg, Russia.
* Designing Hardware for Airborne Data and Signal Processors for Russian fighters, cargo airplanes, helicopters and missiles; Hardware and Software for testing and troubleshooting.
* PROM and RAM airborne memory devices, signal and data processors are still used in Mig-21, Mig-29, Mig-31 fighters and Ant-124.
* Consulting the Vice Minister of Radio Industry responsible for Special-Purpose Computer Systems.
* Representing the USSR Ministry of Radio Industry at Paris Air Show-91, France, and other exhibitions in China, Sweden, Germany, etc.
* Negotiations with foreign companies and authorities on behalf of the concern "Leninets" and St.Petersburg Mayor's office that included General Electric, Boeing, Westinghouse, Braun, Gillete, Alitalia, US.Deputy Minister D.Atwood, etc.

1973-78 Winner of St.Petersburg and National Mathematical Olympiads for Middle and High School Students.

Recent Publications in Refereed Conferences and Journals

Sven Koenig, Yury Smirnov
"Sensor-Based Planning with the Freespace Assumption" at the International Conference on Robotics and Automation (ICRA-97), accepted.

Yury Smirnov, Sven Koenig, Manuela Veloso
"Heuristic-Driven ``Treasure Hunt'' with Linear Performance Guarantees", Congressus Numerantium journal, 1996, to appear.

Yury Smirnov, Manuela Veloso
"Efficiency Competition through Representation Changes: Pigeonhole Principle versus Linear Programming Relaxation" at the Knowledge Representation and Reasoning Conference (KR-96).

Yury Smirnov, Sven Koenig, Manuela Veloso, Reid Simmons
"Efficient Goal-Directed Exploration" at the AAAI Conference-96, pp.292-297.

Yury Smirnov, Manuela Veloso
"Representation Changes in Combinatorial Problems: Pigeonhole Principle versus Linear Programming Relaxation" at the First International Workshop on Machine Learning, Forecasting and Optimization (MALFO-96), pp.161-172.

Sven Koenig, Yury Smirnov
"Graph Learning with a Nearest Neighbor Approach" at the Conference on Learning Theory (COLT-96), pp.19-28

Refereed Abstracts:

Yury Smirnov, Sven Koenig, Manuela Veloso
"Heuristic-Driven ``Treasure Hunt'' with Linear Performance Guarantees" at the XXVII Southeastern International Conference on Combinatorics, Graph Theory and Computing, Baton Rouge, 96

Yury Smirnov, Sven Koenig, Manuela Veloso
"Efficient Exploration of Unknown Environments" at the American Mathematical Society meeting at Kent, 95

Earlier Publications in Russian:

USSR Patent on **"Impuls-Feeding Device for PROMs,"**

"Mathematical Models and Methods for Optimal Designing Complex Special-Purpose Radar Systems" at the Second National Conference on Methods of Representation and Treatment of Stochastic Signals and Fields, Tuapse, 1989, pp.56-59.

"Reducing the Redundancy of Information Systems by Methods of Multicriteria Optimization" at the 10th National Symposium on Problems of Redundancy of Information Systems, Leningrad Institute of Aviation Industry, 1989, vol.2, pp.32-39.

"Stable Impulse-Feeding Device for a Single Power Source", Special Radioelectronics Journal, ser.Radar Systems, 1989, vol.16, pp.77-81.

"Multiple Optimality Criterias in Designing Complex Special-Purpose Systems", Special Radioelectronics Journal, ser.Radar Systems, 1989, vol.16, pp.93-104.

"Optimal Checking PRAM Modules",
Special Radioelectronics Journal, ser.Radar Systems, 1989, vol.16, pp.121-130.

"On Finding Optimal Sizes of Aluminum Radiator Assemblies",
Leningrad Agricultural Academy, 1987, ser. Heavy Tractors, pp.27-32.

"Improving Reliability of Memory Devices through Error-Correcting Codes",
Special Radioelectronics Journal, ser.Airborne Computer Systems, 1987, vol.10, pp.25-37.

"Efficient Troubleshooting PROM Devices", Special Radioelectronics Journal, ser.Airborne Computer Systems, 1987, vol.10, pp.58-65.

Membership

IEEE, ACM, AAAI, DECUS.

Activities

Reading, parenting, swimming, running.
Member of the Asics, Pittsburgh team, the team winner of the US.Championships 95 and 96 in half-marathon.
Road runner of the year (1996) in Pittsburgh.
Source:Health and Fitness journal, 96, Dec., p.29.

Visa Status

US.Permanent Resident, obtained in July 1994.

References

Manuela Veloso
Dept. of Computer Science
Carnegie Mellon University
mmv@cs.cmu.edu

Jaime Carbonell
Dept. of Computer Science
Carnegie Mellon University
jgc@cs.cmu.edu

Avrim Blum
Dept. of Computer Science
Carnegie Mellon University
avrim@cs.cmu.edu

Bart Selman
AT&T Labs.
selman@research.att.com