

Curriculum Vitae

Personalia

Name: Dr. Jeroen Fransiscus Jacobus Laros
Nationality: Dutch
Date of birth: July 27, 1977
Address: Morsweg 52d
2312 AE
Leiden
Email: jlaros@liacs.nl

Education

2005 – PhD Student Algorithms and Data Mining at Leiden University.
1997 – 2005 Master in Computer Science at Leiden University; Master's degree: 22-4-2005.
1992 – 1997 High school at the “Bornego College” in Heerenveen.
1989 – 1992 High school at the “Oscar Romero” in Hoorn.
1983 – 1989 Primary school at the “Sint Nicolaas school” in Nibbixwoud.

Work experience

2005 – Teaching assistant at the Leiden Institute of Advanced Computer Science (LIACS, Leiden University).
2000 – 2005 System administrator at the LIACS.
2004 Automating the installation of client systems for Attingo at Schiphol airport.
1998 – 2000 Responsible for the help desk at the LIACS.
1998 Teaching internet classes at the social cultural center CASCA in Heemstede.
1998 Teaching assistant for programming methods for the CMG course at the LIACS.
1994 – 1998 Horeca.
– 1994 Unskilled seasonal labour.

Other credentials

Native Dutch and fluent English speaker, in possession of a driver's license.
Proven P-Secure in 2005 by Dutch Intelligence Service (AIVD).

Details

Education

My Ph.D. research consists of two major parts; data mining applied in criminal investigations and various algorithms for genetic research.

The data mining part includes dimension reduction, error visualisation of dimension reductions, temporal extrapolation of criminal careers and the design of new metrics to realise all of this.

The genetic research part includes finding DNA markers, constructing phylogenetic trees based upon substrings in genomes, visualisation of DNA and finding tri-allelic SNPs to refine classification and identification tests.

My Master thesis has the title “Unique factors in the human genome”; my supervisors were:

dr. P.E.M. Taschner

dr. H.J. Hoogeboom

dr. W.A. Kusters

For my Master’s diploma I followed the following courses:

Artificial Intelligence

Genetic Programming

Evolutionary Algorithms

Embedded Systems

Interconnection Networks

Seminar Security

Geometric modelling

Project Primer Design for MPLA experiments

Project Genetic Algorithms in Chess Endgames

My minor was mathematics, which I did at the Mathematical Institute in Leiden. I followed the following courses:

Discrete Dynamical Systems

Project Numeration Systems

The courses in the last years of my high school were:

Dutch

English

Physics

Chemistry

Biology

Mathematics A

Mathematics B

Work experience

As a system administrator I was the main person who designed and maintained the Windows network at the LIACS, consisting of about 150 clients and 6 servers. I designed a so-called unattended installation, with which a client gets installed automatically, furthermore I designed a Windows 2000 domain with Windows XP clients. Despite of the fact that I was hired for only 2 days a week, the network was very well maintained; the security and the software was always up-to-date. In 2005 I got MCSA certified on Windows Server 2003.

Together with two other people I work on a project where I program Cypress USB IC's and have designed an interface to communicate with large numbers of them. The goal is to make a fully operational Fokker 100 simulator and to sell functional units. We started a company to realise this.

Other credentials

Since 1988 I have been programming in various languages; I started with all sorts of BASIC variants, Pascal, C and 8086 assembly. In my academic career, I came in contact with many other languages, varying from imperative languages like C++ and functional languages like Scheme to logical languages like Prolog. I am also skilled with various RISC and Z80 based assembly, for the latter one I made a decompiler. Furthermore, I am skilled with lots of scripting languages like TCL, Bash, etc., know a couple of markup languages like Html, LaTeX, etc. and I am not unfamiliar with web based techniques.

As part of my academic education, I had a course databases, consisting of the modelling and implementation of databases, as well as the theory behind it.

Academic resume

Peer reviewed publications

J. S. de Bruin, T. K. Cocx, W. A. Kusters, J. F. J. Laros and J. N. Kok, Onto Clustering of Criminal Careers, ECML/PKDD-2006 Workshop on Practical Data Mining: Applications, Experiences and Challenges, Proceedings pp. 90-93 (M. Ackermann, C. Soares and B. Guidemann, editors), Berlin, Germany, 22 September 2006.

J. S. de Bruin, T. K. Cocx, W. A. Kusters, J. F. J. Laros and J. N. Kok, Data Mining Approaches to Criminal Career Analysis, Sixth IEEE International Conference on Data Mining (ICDM 2006), Proceedings pp. 171-177 (C.W. Clifton, N. Zhong, J. Liu, B.W. Wah and X. Wu, editors), Hong Kong, China, 18-22 December 2006.

W. A. Kusters and J. F. J. Laros, Visualization on a Closed Surface, 19th Belgium-Netherlands Conference on Artificial Intelligence (BNAIC 2007), Proceedings pp. 189-195 (M.M. Dastani and E. de Jong, editors), Utrecht, The Netherlands, 5-6 October 2007.

W. A. Kusters and J. F. J. Laros, Metrics for Mining Multisets, Research and Development in Intelligent Systems XXIV, Proceedings of AI-2007, the Twenty-seventh SGAI International Conference on Innovative Techniques and Applications of Artificial Intelligence (M. Bramer, F. Coenen, M. Petridis, editors), Springer, pp. 293-303, Cambridge, UK, 10-12 December 2007. See also a 2 page overview, at the 20th Belgium-Netherlands Conference on Artificial Intelligence (BNAIC 2008), Enschede, The Netherlands, 30-31 October 2008; Proceedings pp. 329-330 (A. Nijholt, M. Pantic, M. Poel and H. Hondorp, editors).

H. J. Hoogeboom, W. A. Kusters and J. F. J. Laros, Selection of DNA markers, IEEE Transactions on Systems, Man, and Cybernetics, Part C, 38, 26-32, 2008; doi:10.1109/TSMCC.2007.906060.

T. K. Cocx, W. A. Kusters and J. F. J. Laros, Enhancing the Automated Analysis of Criminal Careers , Workshop on Link Analysis, Counterterrorism, and Security (LATCS) at the SIAM International Data Mining Conference, Atlanta, USA, April 26, 2008.

T. K. Cocx, W. A. Kusters and J. F. J. Laros, Temporal Extrapolation within a Static Clustering, 17th International Symposium on Methodologies for Intelligent Systems (ISMIS'08), Proceedings (An, A., Matwin, S., Ras, Z.W., Slezak, D. editors): Springer LNCS/LNAI 4994, pp. 189-195, doi:10.1007/978-3-540-68123-6_21, Toronto, Canada, May 21-23, 2008.

H. J. Hoogeboom, W. A. Kusters and J. F. J. Laros, Substring Differences in Genomes, Benelux Bioinformatics Conference 2008 (BBC 2008), Proceedings pp. 62, Maastricht, The Netherlands, 15-16 December 2008. Also see the full paper.

A. A. Westen, A. S. Matai, J. F.J. Laros, H. C. Meiland, M. Jasper, W. J. F. de Leeuw, P. de Knijff, T. Sijen, Non-binary SNP markers enable analysis of admixed and degraded DNA samples, (submitted).

Courses

During my time as a PhD student I assisted in the following courses:

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|--------|-------------|-------------------------------|
| Fall | 2008 | Seminar DNA String Algorithms |
| Spring | 2007 – 2008 | Algorithmics |
| Fall | 2005 – 2008 | Fundamental Informatics I |
| Spring | 2006 | Artificial Intelligence |

This assistance includes the reviewing of assignments and giving classes.

Other projects

A non-reviewed paper (but submitted to the arXiv preprint archive) about automatic sequences titled “Numeration-automatic sequences”.

With T. Westen of the NFI we search for Single Nucleotide Polymorphisms (SNPs) in the human genome for various applications.

Supervision

I have supervised two students from the State University of Moscow with the goal to design a viewer for the output of my Master thesis.

Together with H. J. Hoogeboom I have supervised the Master thesis of K. van Vuurden concerning suffix trees and its applications in the human genome.

Together with H. J. Hoogeboom I supervise the Bachelor thesis of K. Rietveld concerning truncated suffix arrays and its applications in the human genome.