

Tivadar Papai - February 23, 2009

CONTACT INFORMATION

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RESEARCH INTEREST

Markov logic, Markov random fields, Markov decision processes, machine learning (theory and applications)

Current project: using Markov logic to infer high level activities of human subjects based on GPS data

WORK EXPERIENCE

2008 Summer, Intern at SAP Labs, Palo Alto, California

Implementing an SSL based tunneling tool in Java

Deploying BIRT into NetWeaver Application Server (J2EE)

EDUCATION

University of Rochester, Rochester, New York USA

Ph.D. in Computer Science, Department of Computer Science (expected graduation date: June 2012, GPA: 4.0/4.0)

- Advisors: Professor Henry Kautz and Daniel Stefankovic

Budapest University of Technology and Economics, Budapest, Hungary

M.S. in Technical Informatics (Computer Engineering), Faculty of Electrical Engineering and Informatics (graduated in June 2007 with excellent result, GPA: 4.71/5.00)

- Thesis Topic: Intelligent Path Following Control of Model Vehicles
- Advisor: Professor Laszló T. Kóczy
- Specialization: Software Engineering (Department of Automation and Applied Informatics)

- Completed more than four times as many optional courses as required
The most important topics these courses covered are the following: advanced calculus, advanced queuing theory, combinatorial optimization, neural networks and SVMs, fuzzy systems, programming techniques, programming languages (mainly C# .NET, J2SE, and J2EE) and web portal development (ASP .NET)
- Participated in a Biomedical Engineering M.S. program for a semester studying anatomy and biochemistry

TECHNICAL SKILLS

Programming

- Advanced Level
 - C# .NET (1.1, 2.0, 3.0)
 - J2SE (1.4.2, 5.0, 6.0)

- Intermediate Level
 - ASP .NET, J2ME, J2EE, C++, C, Prolog, SML, Pascal, PHP
- Basic Level
 - Assembly (AVR)

Other

- Design patterns, OOP and UML experience, SQL

RESEARCH EXPERIENCE

- Intelligent Path Following Control of Model Vehicles
2006 spring - 2007 spring
 - Writing the high level parts of the software in C# .NET 2.0
 - Developing a semicircle detection algorithm for position and orientation detection
 - Designing and implementing a controller for path following
 - For videos and more information please visit:
<http://www.cs.rochester.hu/papai/projects.php>
- Energy Balancing by Combinatorial Optimization for Wireless Sensor Networks
2005 fall - 2007 spring
- SPECT: 2D - 3D Resolution Recovery (reducing collimator blurring by EM algorithm)
2006 spring - 2006 fall

INTERNATIONAL COMPETITIONS

- **33rd International Physics Olympiad in Bali, Indonesia, 2002: Bronze medal**
(296 students from 69 countries)
- ACM International Collegiate Programming Contest, 2006
National Qualifying Contest 3rd place,
Central European Programming Contest, Honorable Mention
- 24-Hour Programming Contest, Final Round: 12th place (2nd place among Hungarian teams)

NATIONAL (HUNGARIAN) COMPETITIONS

- 1st prize both at university and national round of the Scientific Conference of Students, Hungary, 2007
Topic: Component Based Hardware-software System for Fuzzy Control of Automated Vehicles
- Hungarian National Mars Rover Building Contest: 1st prize (2007)
- Physics Competition of Budapest University of Technology and Economics, Faculty of Electrical Engineering and Informatics 2003: 1st place (2002), 2nd place (2003)
- Eötvös Physics Competition: 3rd prize (2001), 1st-2nd prize (2002)
(competition exists since 1916, notable previous winners include Leo Szilard, and Edward Teller)
- Mathematical and Physical Journal for Secondary Schools Physics Point Contest: 1st place (1998-2000), 2nd place (2001), 5th-6th place (2002)
(competition exists since 1898)
- National Physics Competition (for 11th and 12th grade secondary school students): 9th place (2000-2001), 6th place (2001-2002)

SCHOLARSHIPS

- GE (General Electric) Foundation Scholar-Leaders Program (2004-2006)
(awarded to 15 students each year in Hungary)
- Scholarship of the Hungarian Republic (2006)
(awarded to the top 0.8% of the students at Budapest University of Technology and Economics)

TEACHING EXPERIENCE

University of Rochester, Rochester, NY, USA

- TA for “Mathematical Foundations of Artificial Intelligence” (2009 spring)
- TA for “Design and Analysis of Efficient Algorithms” (2008 fall)

Budapest University of Technology and Economics, Budapest, Hungary

- TA for “Declarative Programming” (2005 - 2007)
Grading exam papers, helping in oral exams.
- TA for “Introduction to Computer Science” (2007 spring) Holding problem solving seminars, grading exam papers.
- TA for “Foundations of Computer Science” (2006 fall) Holding problem solving seminars, grading exam papers.
- TA for “Formal Methods” (2005 - 2006) Grading exam papers.

PUBLICATIONS

- J. Levendovszky, A. Olah, Cs. Orosz, T. Papai, T. L. Tran. Energy Balancing by Combinatorial Optimization for Wireless Sensor Networks. In Proceedings of the 6th International Workshop on Rare Event Simulation (RESIM 2006), pp. 74-85, Bamberg, Germany, October 2006.
- L. Siroki, T. Papai, A. Geresdi. Component-based Hardware-software System for Fuzzy Control of Automated Vehicles. Scientific Conference of Students, Miskolc, Hungary, April 2007. (Available only in Hungarian.)
- A. Geresdi, T. Papai, L. Siroki. In Atlas Series of the Solar System (10): Experimental Space Probe Model (Hunveyor Husar). Hungarian Academy of Sciences, Cosmic Materials Space Research Group. Budapest, 2006. (Available only in Hungarian.)
ISBN 963 00 6314 X
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- A. Geresdi, T. Papai, L. Siroki, L. T. Koczy. Component-based Hardware-software System for Fuzzy Control of Automated Vehicles. In Proceedings of SEFI and IGIP Joint Annual Conference 2007, pp. 397-399. Miskolc, Hungary, 1-4 July 2007.
ISBN 978-863-661-772-1