

# George Chronis

Director, IT Services



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## Profile

Proven skills in software development, management, customer relations and customer support.

Consistently carried out innovative ideas from concept to implementation since 2001.

Manages a software development team within the Agricultural Economics Dept. of the University of Missouri.

Co-founded a software consulting company in 2001 which -among other projects- has completed a software solution for a corporation with more than half a million employees worldwide.

## Education

University of Missouri, Columbia, MO — Doctor of Philosophy Degree (PhD) in Computer Science and Computer Engineering, August 2006.

University of Missouri, Columbia, MO — Master of Science Degree (MSc) in Computer Science, August 1998.

University of Missouri, Columbia, MO — Bachelor of Science Degree (BSc) in Computer Science, August 1996.

## Selected Recent Publications

Chronis G., Skubic M., "Robot navigation using qualitative landmark states from sketched route maps", presented at IEEE International Conference on Fuzzy Systems (ICRA 2004), New Orleans, LA, Apr 26-May 1, 2004, pp. 1530-1535.

Skubic M., Bailey C., Chronis G., "A sketch interface for mobile robots", presented at IEEE International Conference on Systems, Man and Cybernetics (SMC 2003), Washington, D.C., Oct 5-8, 2003, pp. 919-924.

Chronis G., Skubic M., "Sketched Based Navigation for Mobile Robots", Proceedings of the 2003 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2003), St. Louis, MO, May 25-28 2003.

Skubic M., Matsakis P., Chronis G. and Keller J., "Generating Multi-Level Linguistic Spatial Descriptions from Range Sensor Readings Using the Histogram of Forces", Autonomous Robots, vol. 14, no. 1, January 2003, pp. 51-69.

Skubic M., Matsakis P., Forrester B. and Chronis G., "Extracting Navigation States from a Hand-Drawn Map", Proceedings of the 2001 IEEE International Conference on Robotics and Automation (ICRA 2001), Seoul, Korea, May 21-26 2001.

Skubic M., Chronis G., Matsakis P. and Keller J., "Generating Linguistic Spatial Descriptions from Sonar Readings Using the Histogram of Forces", Proceedings of the 2001 IEEE International Conference on Robotics and Automation (ICRA 2001), Seoul, Korea, May 21-26 2001.

Skubic M., Chronis G., Matsakis P. and Keller J., "Spatial Relations for Tactical Robot Navigation", Proceedings of the 2001 SPIE AeroSense Conference (Unmanned Vehicle Technology III), Orlando, FL, April 16-17 2001.

Chronis G. and Skubic M., "Experiments in Programming by Demonstration: Training a Neural Network for Navigation Behaviors", Proceedings of the 2000 International Symposium on Robotics and Automation (ISRA 2000), Monterrey, Mexico, Nov. 10-12, 2000.

Chronis G., Keller J., Skubic M., "Learning Fuzzy Rules by Evolution for Mobile Agent Control", Proceedings of the IEEE 1999 International Symposium on computational Intelligence in Robotics and Automation, Monterey, CA, Nov. 1999.

Chronis G., "AKRETAS: An Intelligent Mobile Robot Used As a Video Probe", MS Thesis, Department of Computer Science and Computer Engineering - University of Missouri, Columbia MO, July 1998.

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## Selected Recent Projects

The Missouri Life Sciences Project (2007): To further the State of Missouri research and product development capacity, political, industry and academic leaders from around the state have pulled together to form the Missouri Life Sciences Project. The project seeks to connect companies, private and public research institutions, government agencies and other organizations in ways that expand Missouri's robust Life Sciences industry. The website features an interactive mapping tool to explore Missouri's life sciences clusters. The user may see their demographic and economic base and view the clusters by sector, by location, or by organization. Dr. Chronis has developed the introduction pages and the interactive mapping tool. (<http://missourilifesciences.org/>)

Soybean Genome (2006): Dedicated to the sharing and dissemination of public information on all aspects of soybean genomics and the application of genome information to soybean. The site features a complete database system and administrative user interface for novice users to be able to update all site pages. Dr. Chronis has managed the website development team. (<http://www.agbionetwork.net/~soybeangenome/>)

National Center for Soybean Biotechnology (2005): The University of Missouri-Columbia was designated by the U.S. Congress as the site for the new National Center for Soybean Biotechnology (NCSB). The foundation for this National Center was the Center for Soybean Genomics and Biotechnology, previously formed at the University of Missouri-Columbia in support of interdisciplinary research on the genomic structure and function of soybean genes. The ultimate goal of the NCSB is to provide innovative molecular approaches that can be applied toward soybean improvement. Dr. Chronis and his group have developed the complete supporting website for the center. (<http://www.soybiotechcenter.org/>)

Manuscript *FastTrack*<sup>™</sup> (2005): A fully automated web-based manuscript management system that speeds up the review process, improves the quality of reviews, and enhances the experience of authors, reviewers and editors while eliminating the need for editorial support staff. Manuscript *FastTrack* sees regular upgrade releases every six to twelve months and is being completely developed, maintained and supervised by Dr. Chronis. (<http://expressacademic.org>)

Definex<sup>™</sup> (2004): A system that creates and captures value for producers by utilizing technology to trade customer products in the domestic and global markets. Definex is capable of tracking products like soybean and corn from planting to harvest to sale, and includes tools to assist in all phases of crop production, such as seed selection and improvement, inspection, certification, harvest and marketing (<http://www.mof2.org>). Definex is integrated with remote hardware that collects data from farms and bins, works with remote databases on different information systems and provides appropriate human interfaces for

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each one of the entities using the system including producers, inspectors, suppliers, managers and customers.

EMPIRE Builder™ (2003): An on-line system that delivers for Missouri farmers by effectively and efficiently managing the organizational efforts and corresponding membership drives for rural value-added, new-generation businesses. Among other features EMPIRE Builder allows farmers to register and participate in different businesses, manage their shares and participate in on-line hosted forums. EMPIRE Builder is currently used by 4 different businesses (<http://empire.agbionetwork.net>).

ShipTracker™ (2003): A product designed to track shipments around the globe based on customs records. ShipTracker is a standalone application that analyzes data in different formats including Excel, several database formats and data obtained from the web, with the purpose of matching records. The task is to match import and export records with an intelligent algorithm that accounts for marginal error in the records. Fields such as quantity, value, destination, departure location and date are taken into account to track a shipment and match it to all records of different files. Challenges, among others, include inconsistency in the data, errors and multiple format handling. Tools utilized to solve the problem include fuzzy set theory and fuzzy logic as well as artificial intelligence techniques.

AgBioForum™ (2002): An on-line journal of more than 4,000 subscribers featuring a fully automated on-line submission and review process, as well as circulation and readership statistics (<http://www.agbioforum.org>).

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## Certificates/Awards

National Collegiate Computer Science Awards (NCCSA) Winner, Columbia MO, January 2001.

"Spatial Relations for Mobile Agent Navigation", Scholarship grant by the IEEE Neural Networks Council, Columbia MO, June 2000-July 2000.

UMC Teaching Certification (100%); a certification for teaching after being examined in a real class environment by University of Missouri judges, University of Missouri-Columbia, Columbia MO, November 1997.

Certificate in programming Genetic algorithms in PC Scheme, University of Plymouth, Athens Greece, May 1992.

Certificate in Artificial Intelligence and programming in Scheme (a dialect of LISP), Plymouth Polytechnic South West, Athens Greece, May 1991.

Certificate in Computer Science and the English Language, Rye St. Anthony School, Oxford UK, July 1986.

Certificate in Computer Science, Seneca College of Applied Arts and Technology, Toronto Canada, August 1985.

## Experience

### **Programmer/Analyst Principal, University of Missouri, Dept. of Agricultural Economics; Columbia, MO – May 2000-Present**

- Performs computer systems analysis and problem solving.
- Assesses complexity of projects and prepares cost/time estimates for project development.
- Provides continuing technical advice on the design and implementation of new and revised programs/systems to supporting personnel and clients.
- Develops software in HTML, XML, PHP and Java.
- Works to automate/improve operating processes by devising program logic and adapting standard programming procedures to resolve problems.
- Designs and implements databases in SQL.
- Devises data and controls verification methods.
- Evaluates, installs and maintains software packages for various needs within the department and for outside projects, while considering needs, economical implications and future growth of all systems.
- Maintains Linux and Mac OS X servers for all projects and internal needs.

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- Provides technical support for 20 users within the department and all clients of the department.
- Supervises, manages and coordinates a team of programmers and other professionals to assist in the successful completion of above tasks.

**President and Chief Developer, AgBioKnowledge LLC; Columbia, MO – November 2001-June 2007**

- Co-founded AgBioKnowledge, a firm specializing in strategy planning and software development for large corporations.
- Designed and implemented custom large scale information systems for special purposes.
- Developed software using computational intelligence methods and techniques.
- Hired employees, managed and coordinated a team of programmers.
- Planned business strategy.

**Research Assistant, University of Missouri, Dept. of Computer Engineering And Comp. Science; Columbia, MO – August 1998-May 2001**

- Performed research in Robotics and Computational Intelligence.
- Developed software based on innovative techniques for the purposes of programming/learning by demonstration.
- Built fuzzy controllers and intelligent systems for mobile agent control.
- Taught labs and gave lectures on robotics and intelligent systems for graduate and undergraduate students.
- Contributed in grant proposals and published technical papers (see list of publications).

**Instructor, University of Missouri, Dept. of Agricultural Economics; Columbia, MO – August 1999**

- Taught AgEcon485, a combined course on “Decision Methods and Tools”: a graduate summer course in Expert Systems, Neural Networks, Fuzzy Logic, Traditional AI and Genetic Algorithms as applied in decision making.

**Teaching Assistant, University of Missouri, Dept. of Computer Science; Columbia, MO – January 1998-July 1998**

- Organized and taught a lab for CECS351, a graduate course in Operating Systems.
- Students built a complete operating system including kernel, memory management, job scheduler and higher level components from scratch.

**Programmer/Analyst, Infostar CC; Athens, Greece – January 1994-August 1995**

- Developed software for ELPA auto and motorcycle racing events.
- Developed software to cover the beauty pageant for the Greek television station ANT-1
- Developed specialized software for administrative and accounting functions of hospitals, fast food chains, and medical offices.

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## **Skills**

Effective communication with people, persuading power, problem solving, persistent worker, fast learner.

## **Referrals**

Grafakos Loukas, Department of Mathematics, University of Missouri, Columbia, MO 65211, (573) 882-6958, loukas@math.missouri.edu

Joshi Anupam, Department of Computer Science & Electrical Engineering, University of Maryland, Baltimore County, Baltimore, MD 21250, (410) 455-2590, joshi@cs.umbc.edu

Kalaitzandonakes Nicholas, University of Missouri, 131 Mumford Hall, Columbia, MO 65211, (573) 882-0143, KalaitzandonakesN@missouri.edu

Keller James, University of Missouri, 201 EBW, Columbia, MO 65211, (573) 882-7339, KellerJ@missouri.edu

Skubic Marjorie, University of Missouri, 201 EBW, Columbia, MO 65211, (573) 882-7766, SkubicM@missouri.edu

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