

SAMVITH SRINIVAS

4716 Ellsworth Ave, Apt 516, Pittsburgh, PA 15213 ▪ samvith@gmail.com ▪ 646-573-3923

EDUCATION

Doctor of Philosophy in Information Science

University of Pittsburgh, Pittsburgh, Pennsylvania

Topic: *Influence of Motivation on Wayfinding*. Advisor: Prof. Stephen C. Hirtle.

April 2010

GPA: 3.78/4

Master of Science in Information Science

University of Pittsburgh, Pittsburgh, Pennsylvania

April 2004

GPA: 3.96/4

Bachelor of Technology in Information Technology

University of Madras, India

April 2002

First Class

EXPERIENCE

Doctoral Research

2004–Present

Research Interests: Spatial Cognition, Adaptive Systems, Human-Computer Interaction.

Primary Research Projects—Exploring the role of spatial knowledge and affect on wayfinding

- Introduced the concept of ‘*knowledge routes*,’ or ‘*k-routes*,’ which are schematized routes that model human wayfinding through familiar and unfamiliar environments. Presented empirical support for knowledge based schematization. Findings have direct implications for Spatial Information Systems.
- Explored the possible influence of affect (specifically motivation) on access to acquired or deduced spatial knowledge. Spatial cognition experiments were conducted in virtual environments. Empirical results and theoretical model created have direct implications for the design for Spatial Information Systems; and for understanding human spatial cognition in general.

Secondary Research Projects—Exploration of human cognition through empirical evaluation

- Explored the problem of task allocation in teams for launch and range operations at the Kennedy Space Center as part of a collaborative effort with researchers from the Robotics Institute at Carnegie Mellon University, under a *National Aeronautics and Space Administration (NASA)* Grant–NCC21317.
- Conducted empirical studies on human subjects as part of the Library Locator study where subject’s preferences for various modes of representation of spatial information were investigated.

Teaching Fellowship, University of Pittsburgh

2008–2009

Course Taught: INFSCI 1044 - Human Factors in System Design

- In charge of every aspect of the course including selection of the course textbook, creation of course syllabus and slides. Created and graded exams, assignments and case studies.
- Invited guest lecturers. Organized an optional industry field trip. Requested continuous anonymous feedback from students at every stage of the course. Students’ rating of instructor’s overall teaching effectiveness: Fall 2008: 4.04/5; Fall 2009: 3.79/5.

Research Internship, Informing Design, Inc.

2008

Scientific consulting project:

- Provided scientific insights that were used in the development of a research document presented as an invited talk at the workshop proceedings of the International Conference Spatial Cognition 2008.
- Recommended design changes to an online wayfinding system that was under development.

Reviewer

- Advanced Visual Interfaces (AVI) (*International Working Conference, in cooperation with ACM-SIGCHI, ACM-SIGMM, SIGCHI*).
- Virtual Reality (*Journal*).

Technical Editor, Spatial Cognition and Computation, an Interdisciplinary Journal

2004–2007

Graduate Student Assistant, University of Pittsburgh

2003–2008

- Served as a teaching assistant for undergraduate and graduate courses. Select courses include Human Information Processing, Human Factors in System Design, Information Systems Analysis, Object Oriented Programming.
- Taught class sessions or conducted workshops, created exam questions, graded exams and homework assignments, advised and tutored students on projects and coursework.

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Industry Collaboration, Cognizant Technologies and Solutions **2001**

- Developed a psychometric evaluation software for judging the professional success of employees for the Human Resources Department of Cognizant Technology Solutions Ltd, Chennai. This project was adjudged as the best project in its category (HR-Related Software).

SELECTED PROJECTS

Doctoral Seminar: Cognitive Systems-Adaptive Web, University of Pittsburgh **2005**

- Developed an adaptive wayfinding system- IS Adaptive Wayfinder. The system provided directions to campus buildings. The directions were tailored to suite the user's knowledge of the campus and personal preferences, which were implicitly deduced by the system.

Decision Analysis and Decision Support Systems, University of Pittsburgh **2004**

- Developed software which used decision analysis techniques and Bayesian networks in interpretation of Geospatial queries. Adjudged one of the top three projects of the class.

Independent Study under the guidance of Prof. Stephen Hirtle, University of Pittsburgh **2003**

- Reengineered the LibLoc system which was used to collect data as part of a spatial cognition study conducted by Prof. Stephen Hirtle.

Independent Study under the guidance of Dr. Hassan Karimi, University of Pittsburgh **2003**

- Proposed a decision analysis technique based on the Naïve Bayesian network for the analysis of geospatial queries.

Interactive System Design, University of Pittsburgh **2003**

- Developed software to be used by students to better understand orders of motion. Software was developed to be a cross platform package available online.

PUBLICATIONS

- S.C. Hirtle & S. Srinivas (2010). *Enriching Spatial Knowledge through a Multiattribute Locational System*. Spatial Cognition 2010. (To Appear).
- S.C. Hirtle, K.F. Richter, S. Srinivas, and R. Firth (2010). *This is the Tricky Part: When Directions Become Difficult*. Presenting Spatial Information: Granularity, Relevance, and Integration-Special Issue of the Journal of Spatial Information Science. (Under Review).
- S. Srinivas & S.C. Hirtle (2009). *Influence of Motivation on Wayfinding*. In: Belardinelli, O. (ed.): Cognitive Processing, International Quarterly of Cognitive Science. Journal no. 10339, *Abstract*. Springer.
- S. Srinivas (2007). *Influence of Affect on Wayfinding*. Conference on Spatial Information Theory, Melbourne, Australia, 2007. Doctoral Colloquium. (Won the Google Award for promising doctoral research proposal).
- S. Srinivas & S.C. Hirtle (2007). *Knowledge Based Schematization of Route Directions*. In T. Barkowsky, M. Knauff, G. Ligozat, D. Montello (Eds.), Spatial Cognition V, LNAI 4387. Berlin: Springer-Verlag.
- S. Srinivas & S.C. Hirtle (2006). *Knowledge Based Schematization of Route Directions*. In M. Raubal, H. J. Miller, A. U. Frank, M. F. Goodchild (Eds.), Geographic Information Science, Fourth International Conference, GIScience 2006, Extended Abstracts. IfGI prints, 28.
- K. Sycara, P. Scerri, J.A. Giampapa, S. Srinivas, and M. Lewis (2005). *Task Allocation in Teams for Launch and Range Operations*. 12th International Conference on Human Computer Interaction, July, 2005.

ACADEMIC LEADERSHIP AND SERVICE

Voting member, SIS Council, School of Information Sciences (SIS), University of Pittsburgh **2007-2008**

- Served as a representative for the entire graduate community at the School of Information Sciences (SIS).

Advisor, International Services Advisory Committee, University of Pittsburgh **2005-2007**

- Served as a representative for the entire international graduate student community at the University of Pittsburgh.

President, Doctoral Guild, SIS, University of Pittsburgh **2004-2005, 2006-2008**

- Worked with doctoral students, faculty and the administration in a collaborative effort to improve student life at the school.

ACADEMIC HONORS AND AWARDS

- Travel grant to *International Conference Spatial Cognition 2009*, Rome, Italy, awarded by the School of Information Sciences (SIS), and the Graduate and Professional Students Association (GPSA), University of Pittsburgh.
- **Research Grants** awarded by the School of Information Sciences in 2006, 2009.
- 2008 **Allen Kent Award** for outstanding contribution to the Graduate Program in Information Science.
- **Google Award** for promising doctoral research proposal, “The Influence of Affect on Wayfinding” –*COSIT 2007*.
- Travel grants to *COSIT 2007*, Australia, awarded by SIS and GPSA, University of Pittsburgh.
- Travel grant to the International Conference–*Spatial Cognition 2006*, Germany–**Awarded by the conference**.
- Travel grants to *Spatial Cognition 2006*, Germany, awarded by SIS and GPSA, University of Pittsburgh.
- Travel grants to Germany, awarded by SIS and GPSA, University of Pittsburgh.
- Travel grants to *COSIT 2005*, Buffalo, awarded by SIS and GPSA, University of Pittsburgh.
- Travel grant to *HCI 2005*, Las Vegas, awarded by SIS, University of Pittsburgh.
- Winner of “Connoisseur 2000” a college event consisting of multiple levels of aptitude tests and stress interviews.

REFERENCES

Prof. Stephen C. Hirtle, School of Information Sciences, University of Pittsburgh, email: hirtle@pitt.edu.
Prof. Michael Lewis, School of Information Sciences, University of Pittsburgh, email: ml@sis.pitt.edu.
Asst. Prof. Alexander Klippel, Department of Geography, The Pennsylvania State University, email: klippel@psu.edu.
Prof. Peter Brusilovsky, School of Information Sciences, University of Pittsburgh, email: peterb@pitt.edu.
Robert R. Perkoski, Chair, Undergraduate Program & Lecturer, School of Information Sciences, University of Pittsburgh, email: perks@pitt.edu.
Robert Firth, Founding Principal, Informing Design, Inc., email: bob@informingdesign.com

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