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MESSAGE FROM THE CHAIR
Welcome to our Summer 2015 issue!

By Ellen J. Bass, Ph.D.
CEDM Technical Group Chair

I hope everyone is enjoying summer (assuming you live in the northern hemisphere, that is). Nominations are open for four officer positions: the Technical Group (TG) Chair Elect, the Program Chair Elect, Secretary/Treasurer, and the Electronic Communications Director. While the TG Chair has overall responsibility for the TG, the chair elect is called upon to help the chair and the other officers. Our program chair elect helps with the assignment of the technical reviews for the annual meeting as well as with helping assign accepted submissions to sessions. In addition the program chair elect helps with session chair assignments. The program chair elect also helps at the conference with estimating attendance. The secretary/treasurer supports all budgetary decisions and documents the annual business meeting. The electronic communications director supports our web site and social media sites. Please let me know if you would like to run for office and please send me a statement to be included with the voting instructions.

I also hope everyone has had a chance to enjoy the images coming from Pluto. It is hard to believe that Pluto was discovered 85 years ago by Clyde Tombaugh based on predictions by Percival Lowell and William Pickering. Tombaugh used a blink comparator to switch from viewing one photograph to another and noticed a stationary object later named Pluto which was later classified as a dwarf planet (a plutoid). Visual perception has a great role in this discovery.

In 1978, James Christy and Robert Harrington discovered Charon (the first discovered moon) using the 1.55-meter telescope at the Naval Observatory Flagstaff Station. Images from the Hubble Space Telescope helped with the discovery of the moons Nix and Hydra in 2005, Kerberos in 2011 and Styx in 2012. Now NASA’s New Horizon’s LOng-Range Reconnaissance Imager (LORRI) is already producing high resolution images (10,000 times higher resolution as taken by the Hubble) with features as small as a half-mile across the surface of Pluto. Still it is the human analyst using visual perceptual skills at the core of the discoveries.

In addition to LORRI, the science payload consists of six additional instruments (two optical instruments, two plasma instruments, a dust sensor and a radio science receiver/radiometer). The Alice instrument, a 4.4 kg, 4.4 Watt general-purpose UV imaging telescope/spectrometer has already observed Pluto’s nitrogen-rich atmosphere as far as 1,000 miles above the surface. The spacecraft has also discovered a region of ionized nitrogen tens of thousands of miles beyond the planet. Scientists on the ground however are in for a long wait to access all of the data from the pass. The average downlink rate after New Horizons passes Pluto (and sends the majority of its encounter data to Earth) is approximately 2,000 bits per second. Scientists estimate it will take 16 months to downlink the stored encounter data. The science data will post-processed based on calibration data obtained for each instrument. The raw and calibrated data files will be formatted for analysis. It will be interesting to see how much data analytics and data visualization play in the new discoveries that will happen for years to come.

Back here on Earth, it will not be long until we meet at the annual meeting in Los Angeles. The final schedule for the conference is still under development but we are hoping that our business meeting will again be Wednesday afternoon. Thanks to everyone who submitted and to the volunteers who reviewed for this year’s meeting. Also thanks to all the people who have agreed to serve as session chairs and co-chairs!

We are continuing with our “Feature Article” series that started in the Winter 2015 edition. This issue features Chris Miller from Smart Information Flow Technologies (SIFT) reflecting on the topic of computational politeness and etiquette. Chris is the Chief Scientist at SIFT and is a pioneer in the area of human
etiquette and politeness perception. His work has been applied to projects with the U.S. Air Force, the U.S. Navy, and NASA. He reflects on the history of human-automation etiquette during his professional career, the benefits and necessity of perceived polite automation, and some insights on the future of this developing field. We will continue the discussion on the CEDM LinkedIn site at: http://www.linkedin.com/grp/post/44516-6029946131230781443?trk=groups-post-b-title. Please feel free to send your thoughts about what other topics and/or leaders most interest you and/or your interest in writing a “Feature Article”. ※

JOURNAL OF COGNITIVE ENGINEERING & DECISION MAKING

Update from JCEDM: Keep Submitting Papers, and Check out the June Special Issue!
By Amy R. Pritchett, Ph.D.
JCEDM Editor

The number one thing the CEDM-TG can do as a community to support JCEDM is to submit more high-quality regular papers to the journal. We provide a unique venue within the HFES to publish findings about work in complex environments, and all the methodological messiness that comes with our types of research. But, to grow the journal – to gain an impact factor and an established footing within the Society – we need to show a steady supply of regular papers. For this, we depend on you!

In other news, supplementing our on-going regular papers we also have some special issues coming out. Check out our June 2015 special issue in Decision Making in Cyber-Security, led by Anita d’Amico and Emilie Roth. Anita wrote out the topic also in the past edition of Cognitia – and this special issue brings a special touch by looking at how decision makers look at and make decisions that impact cyber security. For example, key decisions are being made every day about how information is protected – not just national secrets, but personal data that are kept private. Let’s hope that we as a community can help out with this task! ※

CEDM ON LINKEDIN & FACEBOOK

By Farzan Sasangohar
CEDM TG Electronic Communications Director

CEDM TG's LinkedIn (www.linkedin.com/groups/Cognitive-Engineering-Decision-Making-CEDM-44516/about) membership and member's contributions have been growing steadily. As of June 2015, the LinkedIn group has more than 2607 members (about 4% growth since January 2015). We encourage members to post discussion topics, interesting news, and job announcements. To ensure proper usage of the media, the TG executives regularly monitor requests to join and posts.

Current trending topics on LinkedIn include:
- Change in LTM is hard. New research shows a possible way.
- Likability in leadership
- mBraining for effective decision making
- Cybersecurity decision making
- Automotive automation and trust

The LinkedIn page is also home to the CEDM TG Student Group, which currently has 61 members. This page is administered by CEDM’s Student Affairs Officer and is restricted to student members of the TG. We encourage all TG members to visit the LinkedIn page and invite the current members to post discussion topics and announcements.

TG also maintains a Facebook page (www.facebook.com/groups/7636301315/) which currently has 245 members. In addition, TG’s website (tg.hfes.org/cedm/) provides the most up to date TG news, job announcements, and access to the newsletter archive.

As a reminder, the CEDM-TG listserv is for TG-related announcements only. All discussions should be posted on LinkedIn or Facebook pages. TG members who are not LinkedIn users but are interested to join can visit (www.linkedin.com/reg/join). Please note that the CEDM-TG does not control enrollment on the listserv and can neither add nor remove recipients. All members of CEDM are automatically added to the TG mailing list. Those wishing to leave the list must contact HFES Member Services (info@hfes.org). ※

ANNOUNCEMENTS

2nd Annual 2f-NIRS Conference
By Kevin Mandrick, Ph.D.

Dear colleagues,

On 2-3 April 2015, here at ISAE-SupAero (Toulouse, France) we hosted two days of scientific presentations, technology demonstrations, round table discussions, and poster sessions which centered on Near Infrared Spectroscopy technology in Neuroergonomics (http://websites.isae.fr/2fnirs/workshop-2015/2fnirs-2015-previous-edition/). The main goal of this 2nd Annual 2f-NIRS Conference was to encourage the Ergonomic (continued on pg 6)
FEATURE ARTICLE

A Computational Model of Perceived Politeness:
Or, Why Even Computers Need (to Reason About) Love Too

By Christopher A. Miller, Ph.D.
Chief Scientist at Smart Information Flow Technologies

Most of my professional career has been spent wrestling with designs for safe, efficient, productive and mutually beneficial social relationships between humans and automation. But my degree is in cognitive psychology and both my undergraduate and graduate theses had to do with the kinds of inferences that people, adults and children, draw from the verbal and non-verbal behaviors of others. Perhaps that is what led me to an interest in the relationship, in all its many dimensions, between humans and automation. And now, as automation becomes ever more complex and integrated into our lives, a focus on the kinds of inferences we can and should draw from its subtle behaviors seems ever more relevant. I have called this topic Human-Automation “Etiquette” with reference to the kinds of usually-unwritten protocols that allow us to draw subtle social inferences.

I began my working life at what would become the Honeywell Laboratories designing advanced automation for cockpits, oil refineries, military command and control, etc. This was roughly concurrent with the initial release of Microsoft’s “Clippit”—the animated paper clip which has become something of a cautionary tale in how not to do user interface automation and help. Although there are some good, theoretical reasons for intentionally providing anthropomorphized automation in some circumstances, we had never seriously considered it in the high criticality domains I was working in. This was due to a quite pervasive bias on the part of our user communities against anything remotely smacking of “cutesy” automation.

Nevertheless, I became increasingly aware of subtle ways in which even highly trained users of complex and safety critical automation were drawing social cues from their interactions—cues that the designers may not have intended. For example, human pilots of advanced fighter aircraft seemed to expect to be able to instruct an “associate” system and experienced frustration and reductions in perceived competence when they couldn’t (Miller and Hannen, 1999), participants in a simulated flight task performed better when given “polite” vs. impolite or nagging malfunction advice (Parasurman and Miller, 2004) even when that advice was incorrect, and elderly patients were motivated to “fool” an annoying medication reminding system by taking their medication out of an instrumented case so that they could take it at a later time. In an analysis of a famous case study in automation misuse (the Royal Majesty cruise ship grounding off Nantucket in 1995—cf. Degani, 2003), I argued (Miller, 2009) that the users’ professional “etiquette” played a role in this $7 million accident by causing expectations of an increasing alarm from a navigation “aid” (formerly a human role) which were not provided. Thus, etiquette permitted or encouraged a conclusion that there was no alarm state—and the captain and crew proceeded to drive the ship aground based on faulty navigation information.

As we moved into the realm of social interactions with automation, it became clear that we needed means to enable machines to understand the vast and complex sea of social codes that humans naturally swim in—that is, we needed to make “etiquette awareness” computational. Fortunately, we were aided by the work of Penelope Brown and Stephen Levinson (1987), pioneering sociolinguists who proposed a qualitative model of a substantial element in human-human etiquette: the perception of “politeness” and its functions in human relationships and interactions. Perceived politeness, in their view, was a function of the value of specific redressive behaviors (e.g., saying “please” and “thank you”, using honorifics, being tentative in making requests, etc.) in balance with the degree of “face threat” in an interaction. Face threat, was in turn, a function of power differences, familiarity or social distance and the degree of imposition in an interaction or request. Thus, politeness becomes a means by which humans signal, negotiate and maintain power and
A Computational Model of Perceived Politeness (Christopher A. Miller, Ph.D.)

(continued) authority relationships, familiarity, team affiliation, trust and goodwill, assessed competency, urgency, incurred costs of interruption, etc.—all of which are critical to successful human-automation interaction.

Brown and Levinson’s model was not quantitative or computational, and our contribution was to make it so. We began with a simple survey to convince ourselves that the model’s predictions tracked user experience of alternate medication reminder wordings in the elder care system described above. We went on to demonstrate a full, initial, computational version as part of a language and culture training game funded by DARPA (the Tactical Language Training System—Johnson and Valente, 2008) illustrating the ability to both generate and recognize politeness behaviors in keeping with a character’s goals and culture/language knowledge. The model was shown to correlate with subjective user ratings in a series of vignettes using alternate politeness levels and types (Miller, Wu and Funk, 2008). It was also used to structure a series of experiments funded by the Air Force Research Laboratory in which we explored the impact of variations in perceived politeness on directive compliance behaviors (compliance, accuracy, reaction time, as well as subjective attitudes such as trust, likeability and perceived workload). There were many interesting lessons from that work (e.g., Miller, Wu, and Ott, 2012) but, generally, the data showed that subjective data favored more polite directive givers and participants chose to comply with them more, but when compliance was not optional, any form of unexpected perceived impoliteness enhanced compliance accuracy and, frequently, speed.

In our most recent work, we have “turned around” the computational model of perceived politeness. Instead of using it to generate utterances or behaviors expected to have a desired politeness value in context, we are instead using detected redressive behaviors in interactions between individuals to infer power or familiarity relationships between them. We used this approach to derive organizational charts indicating perceived power based on a week of military chatroom interactions in a large field exercise at Ft. Huachuca, AZ. We were 100% accurate in deriving key power relationships over this period as compared to the command relationships within those chat room groups. This work is currently being extended as a part of a larger NASA project to develop non-intrusive assessment techniques for individual and team psychosocial health for long duration space missions.

My initial impetus to explore human-machine “etiquette” was based on an intuition and some observations of human behaviors with advanced systems. While there were those who found this focus outside the purview of a human factors engineer, I was encouraged along the way by several creative experts in the field—most notably Raja Parasuraman, Peter Hancock, Clifford Nass, John Lee, and my co-editor on our book Human-Computer Etiquette, Caroline Hayes (Hayes and Miller, 2011). Now, 15 years later, the topics of etiquette and politeness have proven to seed a range of diverse research and development efforts in my company and elsewhere. I think it is becoming increasingly clear that we need machines that are designed with an eye to how humans will perceive and interact with them on a social level, as well as computational models of those social interactions. After all, we are social beings and all our interactions with other “autonomous agents” (be they human or not) are necessarily social interactions. Failing to fully design for those interactions means we get random, and most likely undesirable, interactions as a result.

Have questions or want to continue the discussion? Check out the LinkedIn discussion on this topic!
https://www.linkedin.com/grp/post/44516-6029946131230781443?trk=groups-post-b-title

A Computational Model of Perceived Politeness (Christopher A. Miller, Ph.D.)

(continued)


Dr. Christopher A. Miller, Chief Scientist at Smart Information Flow Technologies, received his Ph.D. in Cognition and Communication Psychology from the University of Chicago, IL, USA in 1991. He has pioneered work in computational models of human etiquette and politeness perception and their applications for nearly 15 years. Dr. Miller has now managed ten projects at SIFT on this topic, providing sustained development and guidance for SIFT's Etiquette Engine(TM) and applying it in areas ranging from training games and simulations, to product design, to military intelligence analysis, to team training and performance assessment applications. These projects include Etiquette for Directives (a U.S. Air Force effort studying the effects of politeness variations on directive compliance across cultures), the ADMIRE project (a U.S. Navy effort applying politeness models to the automatic inference of power structures from textual chat or email) and AD ASTRA (a current NASA effort to develop and validate non-intrusive, largely text-based methods to infer individual and team psycho-social states). Prior to joining SIFT, Dr. Miller led a series of adaptive information management and human task modeling projects at the Honeywell Technology Center over a period of 11 years.

This article was first featured in the Summer 2015 (Vol 21, No 2) edition of Cognitia, the newsletter of the HFES Cognitive Engineering and Decision Making (CEDM) Technical Group.

(continued from pg 2, Announcements, 2f-NIRS conference)

community in their current and future endeavors with using functional near-infrared spectroscopy. There is no doubt that it was a memorable experience for everybody who wanted to see this technology in action!

The workshop was held in the "Space and Aeronautics Center" of Toulouse (La ville rose, the pink city) where a high level of excitement and unique contrasts exist - history and modernity, bustling urbanity and soothing tranquility, youthful and experienced minds.

Save the date! 7-8 April 2016
Next year’s conference, the 2016 2f-NIRS Workshop will be held at Montpellier at the Euromov Center. ※

IJHCS special issue multitasking and interruptions
By the Editorial Committee of the IJHCS special issue

The latest issue of the International Journal of Human-Computer Studies is a special issue on Integrating knowledge of Multitasking and Interruptions across different perspectives and research methods. We have many contributions from the human factors community and other communities. I therefore hope it will be of interest to you.

The papers of the special issue can be found here: http://www.sciencedirect.com/science/journal/10715819/79

In the introductory article, we provide a brief introduction to each of these articles, some background on the field, and also a 6 point research agenda of important open questions. Hopefully that will be of use to the community:


Extending Naturalistic Decision Making:
Reaching across domains, disciplines and applications

This is a call for papers for a Special Issue of the Journal of Cognitive Engineering and Decision Making Journal (JCEDM) devoted to the general theme of "Extending Naturalistic Decision Making: Reaching across domains and disciplines."

The first Naturalistic Decision Making (NDM) conference was held in 1989, bringing together a diverse set of researchers working on related problems. From that small group, the NDM community of practice has grown worldwide. Naturalistic decision making (NDM) methods and models have extended well beyond the 1988 study of firefighters to a broad range of domains. In fact, NDM professionals are often invited to contribute to the study of emerging problems with significant implications for safety, productivity, and innovation. NDM methods and perspectives offer an important complement to other disciplines. The special issue will include articles that highlight the integration of NDM into multidisciplinary efforts to improve work in complex domains.

Articles in the special issue will emphasize examples in which NDM research has impacted our understanding of complex cognitive work in a variety of domains and disciplines – especially those that feature extensions of NDM theory to challenging problems in new domains.

The special issue editors invite submissions dealing with any of these topics including, but not limited to:

1. New or refined NDM models or applications
2. New or refined NDM methodologies
3. Critical analysis of NDM models and methods
4. Outcomes and applications of NDM research (i.e., innovative designs, improved understanding of phenomena, etc.)
5. Integrative writing highlighting links between NDM and other researcher communities

Together, the collection of papers included in this special issue should provide an in-depth look at the extension of NDM theory and methods across disciplines and domains.

SCHEDULE FOR SUBMISSIONS

Manuscript Submission Deadline: 15 December 2015
Acceptance Notification: 31 March 2016
Final Manuscript Due: 31 May 2016
Publication: To be determined

Manuscripts should be 25-30 pages double-spaced, and will be subject to the standard JCEDM review prior to acceptance.

CALL FOR PROPOSALS & PAPERS

Journal of Cognitive Engineering and Decision Making
Call for papers • Special Issue
Instructions for authors can be found at http://www.hfes.org/web/PubPages/JCEDMauthorinfo.pdf


SPECIAL ISSUE GUEST EDITORS

This special issue is co-edited by Kathleen Mosier, who co-organized the eighth NDM conference, and Laura Militello, who helped organize the second, fourth, and twelfth NDM conferences. Both editors serve on the editorial board for JCEDM.

Kathleen Mosier
San Francisco State University
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Laura Militello
Applied Decision Science
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The Journal of Cognitive Engineering and Decision Making launched in 2007 focuses on research that seeks to understand how people engage in cognitive work in real-world settings and on the development of systems that support that work. The journal features research on human cognition and the application of this knowledge to the design and development of system interfaces, automation, aids and other support systems, training programs, personnel selection devices, and coordination environments for people who work in teams or groups. ※

Call for Papers for Le Travail Humain

Special Issue: Neuroergonomics: Measuring the human operator’s brain in ecological settings

The journal LE TRAVAIL HUMAIN invite authors to participate in a Special Issue “Neuroergonomics: Measuring the human operator’s brain in ecological settings”.

Guest Editors:

Frédéric Dehais, Mickaël Causse, and Julien Cegarra.
This special issue will be dedicated to Dr. Raja Parasuraman, a Pioneer and leader of Neuroergonomics.

Human Factors and Ergonomics have continuously evolved in their approach and practice during the 20th century. The spectacular recent advances in cognitive neuroscience have radically expanded our knowledge on human cognitive functioning. Since the early 2000’s, Neuroergonomics, the intersection of Neuroscience, Cognitive Engineering and Ergonomics, proposes to examine the brain mechanisms and underlying human-technology interaction in increasingly naturalistic settings representative of work. This innovative approach promotes the use of portable devices, such as functional near infrared spectroscopy (fNIRS), electroencephalography (EEG), eye tracking another psychophysiological measurements that offers promising prospects for investigating the neural correlates of mental workload, perception, human error and human computer interaction.

Objective - The aim of this special issue is to bring together research illustrating the mechanisms underlying expertise and cognitive functioning in human operators. Priority will be given to research that analyzes the brain at work in ecological environments and facing complex task constraints.

Topics - This special issue seeks original, high quality papers in all areas related, but not necessarily restricted to:

- Innovative methodologies and protocols using brain imaging techniques and eye tracking in realistic operational settings;
- Future ergonomics applications, usability, and ethical issues related to Brain Computer Interfaces (BCI) and human performance monitoring;
- Adaptive user interfaces and cognitive countermeasures to enhance performance and mitigate human error;
- New interactive concepts such as mixed initiative for more efficient human-system interaction;
- Applications of Virtual Reality and serious games (e.g., work environment supervision, operator training);
- Learning and skill acquisition in operators.

All papers should present a contribution to the design of safer and more efficient work environment and technologies.

Authors are kindly asked to inform us as soon as possible if they intend to submit an article by sending a letter of intent (any format, 250 words minimum) by e-mail to F. Dehais, M. Causse (familyname@isae.fr) and J. Cegarra (julien.cegarra@univ-jfc.fr). Manuscripts must comply with the review submission format (see www.letravailhumain.org) except for their length which, for this special issue, must be between 16 and 20 pages. Les articles retenus seront publiés en anglais mais pourront être soumis en français. La version révisée sera produite en langue anglaise (traduction à charge des auteurs).
**EMPLOYMENT OPPORTUNITIES**

**Post Doctoral Research Fellow**
Armstrong Institute of Patient Safety and Quality
Department of Anesthesiology and Critical Care Medicine
Johns Hopkins University (Baltimore, MD)
Page 9

**Social Scientist Internships and Senior positions**
Smart Information Flow Technologies
Minneapolis, MN and Boston, MA
Page 10

Cognitia is published by the CEDM-TG of the Human Factors and Ergonomics Society. For membership information, see the HFES website at hfes.org.

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For previous editions of this newsletter, please visit [http://tg.hfes.org/cedm/newsletter.htm](http://tg.hfes.org/cedm/newsletter.htm)

Questions? Comments? Suggestions? Submissions?
Please contact us at [http://tinyurl.com/CognitiaTalk2us](http://tinyurl.com/CognitiaTalk2us)
Job Title: Postdoctoral research fellow

Degree and area of specialization: PhD in Industrial and Systems Engineering or a related field with a research focus in Human Factors in Health Care (particularly in the areas of Patient Safety and/or Health Information Technologies)

Department: Armstrong Institute of Patient Safety and Quality, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University

Overview: The Armstrong Institute’s goal is to eliminate preventable harm to patients and to achieve the best patient outcomes at the lowest cost possible, and then to share knowledge of how to achieve this goal with the world. Created with a $10 million gift from C. Michael Armstrong, former chairman of the Johns Hopkins Medicine Board of Trustees, the institute also provides an infrastructure that, for the first time, oversees, coordinates and supports patient safety and quality efforts across Johns Hopkins’ integrated health care system. The interdisciplinary research environment of Armstrong Institute and access to a variety of healthcare settings offer opportunities to explore and study new and interesting human factors engineering principles and applications in the field.

The fellow will primarily be working with Ayse Gurses, PhD on research projects in the areas of human factors in patient safety and/ or health information technologies. The fellow will also have the opportunity to collaborate with other interdisciplinary research members of the Armstrong Institute.

Education & Qualifications:
- PhD in Industrial and Systems Engineering with a research focus in Human Factors in Health Care (particularly in the areas of Patient Safety and/or Health Information Technologies)
- Ability to work independently as well as collaboratively in research projects
- Willingness and ability to initiate and lead their own research projects/grant applications; publish extensively in high quality peer-reviewed journals.
- Ability to balance and prioritize tasks, and delivers timely outcomes
- Effective team management and communication skills.
- Excellent problem solving skills
- Good understanding of the research processes and methodologies including qualitative and quantitative research methods. Strong interest in conducting field research in health care environments.

Duties and Responsibilities:
- Conducting literature review and summarizing findings
- Managing and performing data collection activities
- Analyzing qualitative and quantitative data
- Authoring/co-authoring review and research manuscripts
- Help with writing grant proposals, lead writing career grants (if interested and applicable)
- Special Knowledge, Skills, and Abilities:
  - Basic understanding of healthcare systems
  - Experience in reviewing literature using common databases, and use of reference software such as Refworks and Endnote.
  - Experience in data collection protocols, IRB process.
  - Experience in qualitative analysis.
  - Experience in questionnaire design and statistical data analysis

Fellowship period
2 years (Second year appointment is based on academic performance on the first year).

Earliest start date
Available immediately

Materials to submit
- Curriculum Vitae
- Research Statement (1 page) that describes your research experience, interests, and future goals.
- Names and contact information of three references, including your PhD advisor.

Contact Information
Please email materials and questions to Dr. Ayse P. Gurses, Email: agurses1@jhmi.edu
SIFT Needs to Expand! Social Scientist Positions!

Smart Information Flow Technologies (SIFT--www.sift.net) is seeking interns and a permanent senior scientist in social sciences, linguistics and/or human factors.

SIFT is an 16-year-old consulting/research company with 40+ employees, based in Minneapolis, MN and Boston, MA. We conduct cutting edge research and development in a variety of fields. We value innovation, creativity and interdisciplinary approaches to improving human-system relationships, grounded in good science and research. Recent projects include:

- Developing a planner and user interface for multiple UASs (Unmanned Aerial Systems) with more recent emphasis on supporting sensor operations
- Developing tools to aid in the test and evaluation of human-robot teams
- Linguistic Analysis of team and individual psychological state, and experimental validation.
- Cultural modeling and evaluation for training scenarios in a game/simulation environment.
- Experimentation on the effects of culture-specific ‘etiquette’ on compliance with directives
- Tool development to facilitate PTSD treatment through graphic novel creation to “tell your story”
- Creation of a neurophysiological tool to assess anger and promote anger management.
- Asynchronous social support for deep space exploration through virtual avatars
- Creation of a training game to educate users in the value of, and threats to, adequate sleep

Applicants should expect to perform a wide variety of tasks, ranging from requirements elicitation, design, implementation and testing/evaluation to lit reviews, proposal writing, and concept development, as well as others. Some skills/experience that would be beneficial include:

- Human-automation interaction design, theory and evaluation techniques
- Linguistics, sociology, social psychology, industrial/organizational psychology and/or anthropology as they apply to human interactions in group and team settings
- Neurophysiology and/or neuroergonomics and their application to human teaming and human-machine interaction design and evaluation.
- UI design and usability evaluation principles
- Ability to design UIs or other tools in software (Java, Python, C++/C#)
- Ability to use and/or create computational linguistics tools
- Expertise in the use of speech recognition and transcription software
- Experience with training games/simulations and their applications (especially military)
- Experimental design, management and statistical analysis
- Computer Programming capabilities (especially in AI planning)
- Proposal preparation and/or program management

SIFT offers paid internships as full time, temporary positions to both graduate and undergraduates for periods of 3-12 months. Pay is commensurate with experience. Relocation assistance is provided.

SIFT is also seeking a full time, permanent Senior Scientist. Qualified individuals should have at least a Master’s degree or equivalent experience in a relevant field and should demonstrate more advanced proficiency in some of the skills described. More senior individuals are preferred.

Our U.S. Government contract work limits this position to US citizens or permanent residents.

Please submit expression of interest and resume to: jobs@sift.net

Smart Information Flow Technologies
http://www.sift.net