The Intelligent Systems Division proudly presents

Our New Div Dir - Yigal Arens
ISAAC Shines at RoboCup'99, Winning the Research Prize
By Taylor Raines

USC's only entry into this year's RoboCup Simulation League competition was not a team, but rather a team analyst. ISAAC, which stands for ISI Soccer Automated Assistant Coach, was very well received by the competitors in Stockholm present for IJCAI'99, and was awarded the Scientific Challenge Award for Outstanding Research.

ISAAC performs team analysis using data mining and machine learning techniques, and presents findings using a multimedia display to aid human comprehension. ISAAC is available on the web and was used by some of the teams preparing for this year's competition, pointing out strengths and weaknesses of the teams.

But it was at the competition where ISAAC really shined, as people were entertained by ISAAC's natural language summary of games that were just played and predictions of games yet to be played. After predicting 6 of the 8 first round games correctly, competitors and spectators were very interested in ISAAC's speculation about forthcoming games.

Attention for ISAAC was at a peak during the final competition, for which ISAAC predicted CMUnited to defeat MagmaFreiburg by a score of 7-0. CMUnited defeated their opponents by a score of 4-0, and ISAAC had this to say about the final game:

"Heartbreak for MagmaFreiburg as they fall to CMUnited99.

CMUnited99 proved to be too much for MagmaFreiburg to handle as they coasted to an easy 4-0 win. CMUnited99 had the edge in this confrontation with MagmaFreiburg, controlling the flow of the game enough to assure their victory. CMUnited99 attacked early and often, keeping the ball in the MagmaFreiburg half of the field for 85% of the game. And they were rewarded with scoring opportunities, on 6 occasions getting past the last defender to go one on one with the MagmaFreiburg goalkeeper, CMUnited99 also held an edge in ball handling, keeping control of the ball for 61% of the game. This tough match goes to CMUnited99."

ISAAC was created by Taylor Raines, Milind Tambe, and Stacy Marsella, and more information can be found on the web at "http://coach.isi.edu".

Institute for Creative Technologies Live at ISI
(excerpts from the article in "The Los Angeles Times")

The birth of a union between the Army and Hollywood took place right here at ISI. Unfortunately, we had to lose one of our leaders to this process. ISD's former director, Bill Swartout, left us to work on this new exciting project.

ICT, the major research center, was created in order to develop core technologies that are critical both to the military and the entertainment industry. For the Army – it means highly realistic training simulations that rely on advances in virtual reality, artificial intelligence and other cutting-edge technologies. For Hollywood – it is the
new technology for motion picture special effects, realistic video games and virtual reality products.

Some of the technologies that ICT is planning to develop:
- Artificial intelligence to create digital characters for military simulations that respond to situations like real people.
- Computer networks that can run simulations with hundreds or even thousands of participants who are spread all around the globe.
- Technologies to create immersive environments for simulations, ranging from better head-mounted displays to force-feedback devices to surround-sound audio systems.

In addition, experts from USC's School of Cinema-Television will help the creators of military simulations develop better story lines that are believable and engaging.

The Army will spend $45 million on ICT during its first five years. Entertainment companies will also contribute their money as well as knowledge on special effects and storytelling.

---

**A JOKE**

A doctor, a civil engineer, and a computer scientist were sitting around late one evening, and they got to discussing which was the oldest profession.

The doctor pointed out that according to Biblical tradition, God created Eve from Adam's rib. This obviously required surgery, so therefore that was the oldest profession in the world.

The engineer countered with an earlier passage in the Bible that stated that God created order from the chaos, and that was most certainly the biggest and best civil engineering example ever, and also proved that his profession was the oldest profession.

The computer scientist leaned back in her chair, and with a sly smile responded, "Yes, but who do you think created the chaos?"

---

**New Faces in ISD**

We are pleased to announce ISD's new arrivals:

**Jesse Burneko**

Jesse Burneko is a Los Angeles native. However he has been away at Lafayette College in Easton, Pennsylvania for the last four years. His main interest is writing Interactive Fiction. He tries to let this interest spill over into his research as much as possible, which is why his research interests include emotion-based believable agents and interactive dynamic story-telling. He completed an undergraduate thesis titled, "The Role Of Emotional Agents In Interactive Fiction," that spanned both of these topics.

---

**Sandro Corsaro**

**WARNING:** The editorial staff of the newsletter carries no responsibility for the content of the following article. All comments should be forwarded directly to the room with the strange cartoons on the door (East side of the 9th floor).

**ANOTHER WARNING:** Contains strong language and an unusual sense of humor. Not recommended for children younger than the author.

**Background:**

First of all, lets clear up the rumors here at ISI, Sandro Corsaro has never been "convicted" of a felony.

**Research Interests:**

Sandro enjoys drawing on the computer tablet thingy. He also has a research interest in various bodily fluids and is currently writing a book about them. The book is entitled "Is That Pee or
Lemonade?" and will be available next fall at the USC bookstore.

**Abhimanyu Das**

I obtained my bachelor's degree in computer science and engineering at the Indian Institute of Technology, Delhi. I just started the Ph.D. program in Computer Science at USC this fall. I will be working with Milind Tambe as a Graduate Research Assistant at ISI.

Research Interests: Till now, Computer Vision and Image Processing, but now that I will be working in multi-agent teamwork, I hope to develop a keen interest in that too!

Hobbies: Reading novels, Badminton, Quizzing

Favourite Food: Any Indian or Chinese cuisine that is hot and spicy.

**The Latest Virus List**

- Politically Correct Virus: Never calls itself a "virus", but instead refers to itself as an "electronic microorganism."
- Oprah Winfrey Virus: Your 200MB hard drive suddenly shrinks to 80MB, and then slowly expands back to 200MB.
- AT&T Virus: Every three minutes it tells you what great service you're getting.
- MCI Virus: Every three minutes it reminds you that you're paying too much for the AT&T Virus.
- Arnold Schwarzenegger Virus: Terminates and stays resident. It'll be back.
- PBS Virus: Your PC stops every few minutes to ask for money.

---

**Hobbies:**

Sandro is a Scorpio… so watch out you, ladies. He likes long romantic walks on the beach, Feminist literature and relaxing to Kenny G after a rigorous day of drawing cartoons.

**Interesting events in Sandro’s life:**

Sandro was one of the original members of Menudo. He was thrown out of the band in 1984 when it was discovered he was in fact Italian, not Bolivian. Ricky Martin and him still remain close to this day despite the ethnic differences.

Upon high school graduation in 1994, Sandro’s high school, Saint John’s Preparatory School, renamed the detention room after him. No one had given more of his free time to that room in four years than Sandro Corsaro.

Sandro recalls graduating from USC… "It was a profound experience in my life. My whole family was out here from Boston. All my buddies were sitting around me at commencement and I knew that was it. I remember hearing my name as I walked across the stage. It was a surreal moment to look out at all those people you really care about and who supported you all that time. I broke down and just cried when I got back to my seat. Then I vomited on the girl next to me, I was pretty hammered."

**Sandro’s philosophy on life…**

"Serious people suck. Always, always, always have fun…even at funerals. I mean, c’mon, it ain’t you in that damn coffin."
Three or four years ago I began thinking seriously about taking a "sabbatical" from my career in machine translation development at SYSTRAN Software (La Jolla, California.) I joined the company in 1986 as a Japanese lexicographer - my background was in Asian languages.) Later I programmed linguistic rules for a few years, managed the Japanese project for a couple more, and then managed the startup Chinese-English system from 1994-97, and was appointed Director of R&D in 1995. From 1997-99 I worked on a new lexicon development/maintenance tool with SYSTRAN's Chief Scientist, and a joint project with ISI's own Ed Hovy on a hybridized version of SYSTRAN's Japanese-English translation system. Although I was an expert in SYSTRAN, I lacked any hands-on experience with current methods used by outside groups, which limited both my career at SYSTRAN, and my employability elsewhere. I wanted to be much more aggressive in targeting new technical directions at SYSTRAN, but I didn't have enough knowledge - either in linguistics or computer science - to help shape my thinking about the nature of the problems I wanted to address. That started me on the search for a place to fill the gaps.

I had had the opportunity to visit ISI several times since the early '90s and heard about the NLP work going on here, which was always some of the most interesting research work going on in the U.S. When I found out that plans for the new Master of Computational Linguistics program had solidified at USC, I made arrangements to attend as soon as possible. I was able to enroll this fall, AND work at ISI as a Research Assistant. I feel extremely fortunate to have this opportunity.

Sydney did add to the list of my passions ("to become passionless") - meditation. If you stop by my office and see me contemplating - then I might as well be doing meditation, or it is a posture I might have acquired through a complex amalgamation of cultural backgrounds!
**Usha Ramachandran**

I was born on the 19th of June 1978, in a small town in south India. I've lived all my life in another small town in Maharashtra, called Pune. Pune is a beautiful city, it is known as a pensioner's paradise because of its peace and tranquility.

With a Bachelor’s degree in Computer Engineering, from the University of Pune, I decided that I needed to get a little more focussed about what I'm really interested in, which is why I'm here at USC for my Master's degree in Computer Science. Joining USC was something that I looked forward to for a very long time. And everything has been absolutely wonderful so far.

Something more about home, Pune, India ... There's so much that one can say about India, the culture, the people, and most importantly, the food! Well, for a food lover like me, India was really the place to be. My favorite foods were always really spicy and hot. Apart from Indian food I enjoy Chinese and Italian dishes.

Well, that's me in a nutshell. I'd like to end by sharing something that my father used to tell me.... Always think positivity.

**Narayan Sadagopan**

I am from Bombay, India. I received my Bachelors in Computer Science from Regional Engineering College (REC), Trichy in 1998. I worked for one year in Hewlett Packard - India Software Operations (HP-ISO), Bangalore.

Research Interests: AI, Parallel & Distributed Computing, Multimedia Technology, Networks.

Hobbies: playing cricket (one of the most popular games in India), reading, listening to music.

Favourite Food:- Indian Vegetarian food, Pizza.

**Girish Srinivasan**

Background: B.S. in Computer Engineering from the Vivekananda Education Society's Institute of Technology University of Bombay India.

Research Interests: Human-Computer Interaction is an area that is of special interest to me. I also hope to learn and to contribute to the area of Networking.

Hobbies: I love music of different genres and I play the Indian percussion instrument - the tabla. Singing is something I dabble in. Watching movies is another favorite pastime. I am vegetarian and I especially like spicy Indian food.

Perhaps the most exciting event in my life has been the opportunity to come for graduate study to the United States. I am looking forward to many fruitful collaborations at USC/ISI, both academic and social.
Maki Watanabe

I was born and grew up in Japan. After graduating from college, I came to the U.S. First I went to UW-Madison as a Rotary International scholar and obtained an M.A. degree. When my thesis advisor for Ph.D. moved out of Wisconsin, I decided to transfer to USC.

The field of my research is formal semantics and syntax in linguistics. The ultimate goal of my research is semantic formalization of a spectral system (progressive and resultative in particular) and noun denotation (i.e., mass-count) w.r.t. homogeneity.

Hobbies: FOOD!! I love cooking authentic food of any cuisine, and dining out for good quality food in order to prove "Zagat is wrong". I'm also collecting ethnic cooking books. Besides food, I took up some sports this summer. Tennis, swimming, golf, and running up and down the stairs of the ISI building (2nd Fl. - 9th Fl.). If you see me panting like a dog in the hallway, that's because of stairway-running.

ISI started a new division called ARAPAM (Advance Research on Agents Planning and Moving). ISI business office announced yesterday that ISI people moved about 5000 miles from one office to another, and that the mileage is increasing every year. ARAPAM division leader promised to launch a new software initiative that will minimize the cost of office moving. Also, a new conference entitled "Moving and Planning" will be held in a MoveLand, a small island close to Hawaii, in July 2002.

CNN report ISI officials are still investigating the "Coffee Turn Off" case. For more then a decade ISI has been suffering from an unknown agent turning off the coffee machine at least twice a day. No arrests have been made, but a source close to the investigation reports that they have managed to narrow down the search to the East-side offices.

A man who could not enter ISI on Saturday due to the loss of his key card was arrested by police after calling more than 120 internal numbers at ISI. The man told the police that he had not slept in three days, and that he had a paper-deadline on Monday. He was released after researchers at ISI protested the arrest, claiming that what the man has been going through are "normal working conditions".

USC offices reported they have captured an underground organization of graduate students who used to sleep at ISI for a couple of nights every week. The USC center for graduate misbehavior announced the students surrendered extremely harmful material such as sleeping bags, dark coffee, and "Wake-Up for Dummies" books.

Meeting Maker 2000 was finally installed on all platforms. New features included for free: 1) there is no way to quit/kill/run in background, 2) once you set a meeting you cannot change the time without advance notice unless it is with your student, 3) everybody in any division has to manage at least 3 meeting per week (unless you are student, in which case it increases to 5). Also, reserving a conference room was found to be too convenient in the older version, and thus this option was removed.

Statistical data shows the number of PS files printed in the wrong way dropped to 19873, while the number of misprinted presentations in transparencies has only doubled last year, contrary to the pessimistic predictions by "nay-sayers". ISI officials attribute the success to the repeating announcements that only the proper paper should be fed into the transparency slot on ps9e.
USC published a new handbook for purchasing. Using cutting edge technology, ISI people (including students who have passed their quals) can order anything from the web in less than a minute, and be reimbursed in less than 3 years. The second volume of the handbook, expected early 2005, will discuss shipping and handling methods. The handbook titled "Feel Free to Order" costs $120 for students and $12 for faculty and staff.

1999 ISD Retreat Reminder

Hey, ISDers! Our 3rd retreat is getting closer and closer. This is the reminder to please block off November 11 and November 12 on your calendars for some serious fun.

Here is a sketch of the retreat's agenda:
(by Daniel Marcu and Lewis Johnson)

ISD Publications


Randy Hill's paper "Modeling Perceptual Attention in Virtual Humans" took the Best Paper award for cognitive modeling at the 8th Computer Generated Forces and Behavior Representation Conference this May in Orlando, Florida. The paper, which describes Hill's work developing a synthetic helicopter pilot, was one of three selected out of approximately 100 conference submissions.

Technical Program

1. Project Presentations and Discussions
Projects are solicited to propose two teams: a team of presenters and a team of discussants.
- The team of presenters consists of two or three persons who are affiliated with the project. They are supposed to give a 10-minute presentation about their research goals, programs, and ideas.
- The team of discussants consists of two or three persons who are not affiliated with the project but who have an interest in it. They are supposed to try to understand what the presenters are doing and why that is interesting. They should play a role similar to that of Socrates in Plato's Dialogues. That is, they are supposed to ask difficult questions, which can generate heated debates.
- The teams of discussants may choose to learn more about the projects prior to the debate; or to rely only on the information given by the team of presenters.
- A list of possible questions that both teams should attempt to address during the debates will be provided before the retreat.

Such proposals are not restricted to existing projects. We also solicit proposals from groups of people who have submitted or plan to submit in the immediate future Research Grant Proposals and are interested in critiques of their ideas.

We also solicit topic proposals for a Futuristic Topic Debate. We plan to dedicate one session to
discussing a topic that can have a significant impact on AI Research not now, but twenty years down the road.

2. Posters
All members of the division are encouraged to present Posters. The purpose of the Posters is twofold.
- They are supposed to enable one to understand better the range of interests and expertise in the division.
- They can enable members of the division get positive feedback.

3. Workshops
We solicit workshop proposals on themes that may be relevant to multiple projects. These proposals should make clear the purpose of the workshop, the intended audience, and the organizers. Proposals may be brief as long as they provide sufficient detail to enable assessment of their suitability for the retreat.

Social Program
We also invite suggestions and volunteers for the social program. These could involve humorous skits, talent exhibitions, etc.

ISD Tidbits

Hanna Louise Gratch, was born on August 5 at 7lbs. The proud parents of this baby girl are Jon and Bo Gratch.

Little Lucas Robert Frank and Gabriella Cecilia Frank were born on May 28th at 11:51am and 11:55am, respectively... they came in at 3 pounds 1 ounce and 4 pounds 2 ounces... The babies are growing fast and healthy and bring double joy to Martin and Christy Frank.

The latest addition to ISD was baby Julian James Arvo, who was born on August 22 at 8 lbs and 2 oz. Congratulations to the parents – Erin Shaw and Jim Arvo.

Bill Swartout left the post of the ISD Division Director in order to concentrate on a new endeavor (See article about ICT). He is still here, on the 9th floor.

Paul Rosenbloom was recently promoted to the rank of full professor in the Department of Computer Science at USC. Concurrently with his position in the CS department, Paul serves as deputy director of ISD and works closely with Jay Blaire on the strategic development for all of ISI.

CONRO Stands Up!!!

For the first time in history, a self-reconfigurable CONRO robot (with 4 modules) stands up by itself!

Lewis Johnson was named president of the Artificial Intelligence in Education Society and won a Best Paper award for his and Jeff Rickel's article on STEVE and team training.

Milind Tambe, Stacy Marsella, and Taylor Raines won the research prize at RoboCup '99 for their automated "assistant soccer coach" with the snappy sports patter.

Sheila Tejada received the Meritorious Service Award for her long-term efforts to make ISD and ISI a more hospitable place for graduate students.

Kary cut her hair!

After wearing her hair far below the waist since highschool, Kary cut it all! She donated 22 inches of her hair to the society that makes wigs for young cancer patients. (The minimum requirement for donation is 10 inches, so thanks to Kary's generous gift, the lives of 2 kids will be happier). To view this spectacular haircut, Kary's family and friends gathered outside the hair salon. The procedure was even caught on videotape by Kary's husband. ...Special effort should be made not to confuse Kary with Fanny Mak, now that they have similar hairstyles and almost identical looks from the back...
New funded ISD proposals

* Stacy Marsella, Milind Tambe and Taylor Raines: Apply ISAAC to the study of elephant behavior in the wild.

* Craig Knoblock: Create a nation-wide, robust version of the TheatreLoc demo.

* Daniel Marcu and Kevin Knight: Create an ISI-based web service for translating documents among multiple languages.

* Kristina Lerman: Apply a physics-inspired formalism to coalition formation in multi-agent systems.

The following proposal was reviewed favorably, but decision on its actual funding has been stayed for a period of six months:

* Sheila Tejada and Gal Kaminka: Create a server for a multi-player video game (e.g., Doom or Quake) to enable teams of robots to compete, and create such a team.

A True Story: How I Became a Citizen of the United States
(by Katya Shuldiner)

Due to the numerous questions and the overall excitement that the news created inside ISD, I thought that I might share my experience of becoming a U.S. citizen with my fellow workers.

How did it all start:
In 1991 my father summoned me for a serious talk during which he announced that in a year we will be moving to America! It was pretty exciting news for a seventeen-year old. And so we moved to New York from Latvia a while later. (As you can see I didn’t do much for that step on my road to the U.S. citizenship).

The process:
Six years later I submitted an application for naturalization (a.k.a. for U.S. citizenship). Two mysterious people from a synagogue came to our house and took pictures of myself and my husband, filled out the applications for us (despite our pleas to do it ourselves), made a lot of mistakes on our applications, took our money and disappeared. (At this point I have to mention that since the collapse of the former Soviet Union, I didn’t have any citizenship at all. In the eyes of the Latvian government I was an offspring of former occupants and thus, did not deserve to be a citizen of Latvia. There is a long story behind this, so please ask if you are interested to know).

Another year passed by and my fingerprints were taken at a local INS office. The fingerprints were bad. Probably my Soviet background betrayed me and I was thought of as a former KGB spy, or maybe I looked like a serial killer who was trying to cover up committed crimes, but the INS officer found the lines on my fingers to be suspiciously erased. (If you think that I am joking, please be assured that everything below is completely true). I was sent home for 2 weeks to take care of my dry hands, by using a heavy lotion 3 times a day. I was told that I shall not wash the dishes under any circumstances. For 2 weeks my husband was supposed to take upon himself the task of cleaning. My whole life and my whole American future depended on him... Oh well, is there anything that can change a man? The dishes were crying and crying in the sink for days, until I said: “Forget about U.S. citizenship, I need a clean house,” and started washing.

In the meantime I ceased to look suspicious, and my fingerprints were accepted. I even passed the civics test and a very serious interview with an INS officer who questioned my knowledge of the U.S. history. He asked me who is the current president of the United States, what color is the American flag and why are there 50 stars on the flag.

Then finally, the Big Day came. All excited I drove to the Convention Center in Downtown Los Angeles to take my oath and to pledge my allegiance to the U.S. flag. The traffic at the parking lot was incredible – there were 6000 people becoming citizens at the same time, so I had to wait in line for about 30 minutes just to get to the cashier. When it was my turn to pay the parking fees I opened my wallet and... it was completely void of any cash. I was already 30 minutes late so I started laughing hysterically, hoping that the security guard would think that I am crazy and would just let me in.... I guess my attempted craziness sounded very convincing.... 😇

As I said already, there were 6000 people and probably a thousand of guests. The judge, standing on the podium so far away that I could barely see her, furnished statistics about people being naturalized that day. Our huge diverse crowd represented 123 countries, with Mexico, China, Vietnam and El Salvador beating the rest of the 119 countries disproportionally. I guess I was the only one from Latvia 😐. We repeated the oath after the judge and were told of our many privileges as U.S. citizens. Then we were told to waive
the little U.S. flags to celebrate the occasion. I think the judge was really getting a kick out of it from her podium because she kept asking us to waive again and again.

After the oath a real guy (as opposed to the recording) started singing the national anthem. Everything seemed pretty amusing to me up to this point. And then I turned my head and looked around.... I looked around and I saw the faces of 123 countries, the faces that carried 6000 different stories of getting to the Convention Center on that day. But we all stood there together trying to sing along with the anthem, at this moment becoming one nation. Where else on earth would that be possible? I thought of the day when my father announced that we are moving to America and how little it meant to me at that time. Where would I be now without his decision?

The finale:
At the end of the ceremony everybody got their citizen's certificates, and left the room in an excited state. I was extremely impressed to see all 6000 of us leaving the place within half-an hour. We could easily spend the whole day, looking for our certificates, hadn't everything been so well organized. Welcome to America!

There was one thing that puzzled me most for the rest of the day: Inside the Convention Center I proudly bought a beautiful blue cover for my certificate for ten dollars. As soon as I stepped outside the building, I heard a loud voice with a Spanish accent announcing: "Five dollar, five dollar..." The voice belonged to a young man selling the same blue covers right there... for five dollars... Hey, welcome to America!

Candid Pictures @ISD
Curious to see what others do here, at ISD, during these beautiful sunny days at the Marina? Take a look at what we found...

Ms. Tanya Schenk, stealing my granola cereal as I am diligently working on the new issue of The InSiDer. (From the editor).

An ISD GRA at work (Chon Yi). So intense was his concentration that he did not even have time (nor the energy) to smile...
Seems like Ulf was holding a mug full of beer in his hand, but it dissolved in the air the second we walked in.

Surprise!!!
(Andre Valente and Ed Hovy)