



# IEEE Newsletter

Institute for Electrical and Electronics Engineers | University of Florida | November 2014 | Volume 1, Issue 5

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## Mission Statement

This monthly newsletter will inform, entertain, and connect the students of Electrical and Computer Engineering at the University of Florida. This newsletter links students to our university and future workplace by presenting articles on our department, industry, and events hosted by the different campus organizations.

The IEEE Newsletter needs your help making this a better newsletter. Please email your comments, events, and ideas to [IEEE.UF.Newsletter@gmail.com](mailto:IEEE.UF.Newsletter@gmail.com).

## The Unofficial Career Showcase Checklist



Embarrassing introduction? Check. Talking to students you thought were recruiters? Check. Wearing shoes that killed you after one hour? Check, check, check!

These are the struggles of a student attending career showcase for the first time. I attended the September 29<sup>th</sup> fair at the Hilton Inn and was overwhelmed by the amount of students who attended the lower key event. I felt that if I attended the unofficial UF showcase, that not as many students would be present. I was wrong.

The amount of people that swarmed to the showing area made it so that I could not tell which line led to which company. It was a

pick and choose game that ended me at General Electric. I had never spoken to any company before GE.

I rambled, tried to make myself sound important, and turned around and told the recruiter my weaknesses all in the same breathe. Rookie mistakes that I now know not to do. Yet, somehow, I got away with an interview for the following Thursday that, too, became a great learning experience.

**Showcase Checklist**  
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# ECE Professor Series: Dr. Rudolf Kalman

Last month Dr. Hammer was the feature of our ECE Professor Interview Series. He was invited to UF by Dr. Kalman. Before this I did not know that Dr. Kalman worked at UF towards the end of his career. I decided to make a memorable mention of him this month even though he retired in 1992.

Dr. Kalman was born in Budapest, Hungary, on the 19th of May, in 1930. His father was an electrical engineer, and Dr. Kalman decided to pursue the same degree. After immigrating to the United State in 1943, he studied at MIT where he completed his Bachelor's degree in 1953 and his Master's degree in 1954. Both degrees were granted for electrical engineering. Not satisfied, he continued on to receive his Doctorate from Columbia University. His doctoral advisor was Dr. John R. Ragazzini. Dr. Ragazzini was a part of the Manhattan project and, along with Lofti Zadeh, developed the Z transform.

After completing his education, Dr. Kalman worked for the IBM research laboratory from 1957 to 1958 where he worked on applying Lyapunov theory to control systems. After his brief stint at IBM, he went to the Research Institute for Advanced Study (RIAS). The Research Institute for Advanced Study was established by George Bunker of the Glenn L. Martin Company solely for the purpose of fundamental research that could (hopefully) be applied to aviation. The Glenn L. Martin Company would go on to become Lockheed Martin. While at RIAS, Dr. Kalman published the paper that was the basis for the Kalman filter.

The Kalman filter is what Dr. Kalman is best known for. The Kalman filter takes noisy input and, using a sequence of measurements over time, produces an estimate of unknown variables. In essence, it extracts a signal from a noisy channel. The Kalman filter finds applications in many areas of technology. It is often used in guidance systems of cars, planes, and spacecraft, signal processing, radar tracking, and economics.

Here at UF, the Machine Intelligence Lab applies the Kalman filter to the navigation systems of its robot submarine and robot boat.

In 1964, Dr. Kalman joined the faculty of Stanford University. Here he continued his research into

controls but focused on realization and algebraic system theory. Once again, he developed avenues of modern control theory.

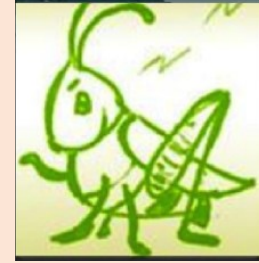
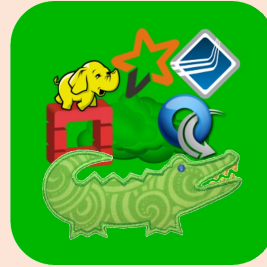
Finally, in 1971, perhaps to enjoy the rest of his life in the sunshine, Dr. Kalman came to the University of Florida. He directed the Center for Mathematical System Theory, which was housed in Larsen Hall. In 1980, he invited our very own Dr. Hammer to come to UF. Dr. Kalman retired in 1992.

Over his long career, Dr. Kalman received many awards including the IEEE Medal of Honor, the Kyoto Prize in High Technology, the IEEE Centennial Medal, the Bellman Prize, and the President's National Medal of Science.

In his personal life, Dr. Kalman is married to Constantina nee Stavrou and has two children.

- **Matthew Griessler**, EE Junior





# Lab of the Month: Scalable Software Systems Laboratory



At the forefront of cloud computing and big data processing, the Scalable Software Systems Laboratory (S3 Lab) aims to create smarter computing, smarter living, and smarter protection for devices.

Directed by Dr. Xiaolin (Andy) Li, the S3 Lab focuses on creating programs which can handle the massive amounts of data from social networks and research networks, and ensures their security.

The S3 Lab has created the GatorCloud, an SDN-enabled campus cloud, which is currently being used by the University of Florida. It is deployed around campus and connects multiple cities around the state as one of the largest campus research networks.

This project also includes the Florida Brain program, a cognitive engine, which is being developed to watch and understand its surroundings with relative learning capabilities. The Florida Brain is being developed with the ability to piece together pictures, understanding the subject of the picture without being given a label.

They have even created a new social network (to be released for public use next year) called ToGathor. The app is a context-aware program, helping to find a lost child in a crowded place via crowd sourcing or simply connect you to friends, professors, and colleagues.

Using this app, you can message and locate your friends all without using WiFi or a data plan. ToGathor could

even be used in the future by professors to easily check attendance in class, just by creating a circle for all enrolled students. The app would detect easily who was in the room.

Researchers have also created an indoor localization program for applications called Guogo (meaning grasshopper in Chinese). This algorithm has been tested in museums, recognizing where a person was standing in the display and instantly providing information on the closest piece of art.

Among these programs, the S3 Lab is also researching cloud robots (programmable through the internet) and automatic vital sign sensing and collaboration between medical professionals with VitalCloud.

For more information about the S3 lab and its projects you can visit: [www.s3lab.ece.ufl.edu](http://www.s3lab.ece.ufl.edu). The lab caters to undergraduate, graduate, and PhD students interested in these areas of big data and cloud computing can express interest to Dr. Li along with a resume at [andyli@ece.ufl.edu](mailto:andyli@ece.ufl.edu).

- Christina Sileo, EE Sophomore



# Unofficial Career Showcase Experience

## Showcase Checklist Continued from page 1

Career showcase is unpredictable. I was blown off by two recruiters for inexperience, and I got unadulterated enthusiasm from three for attending as a sophomore instead of the usual junior or senior. The younger

companies wanted nothing to do with me, which made sense because they have a budget to look for talent, not teach it.

What I learned from this event is that knowing what you want and sharing it is the best way to secure a position. If a company has an opening exactly what you describe to them, they are

more likely to write a positive sticky note on top of your resume.

Overall, Career showcase straightened out the kinks I did not know I had and has now better prepared me for future times where I will be actively seeking out job and intern positions.

- Emily Macon, CE Sophomore

## Life with Non-Engineering Roommates

Air flows from hot to cold. You turn on fans to create such flow and feel cool. The air conditioning turns on every time the temperature at which it is set up to increases or decreases, depending if the set up is, heat, cold, or off. Everyone knows that, right?

Well this semester, I moved to a new place near UF. My new roommate is a non-engineering, graduate student. She is quiet, clean, and almost never home, the perfect roommate, you would think.

Recently, we received our utilities bill for water and electricity. The bill was three figures. Of course she was upset, I was surprised. She left me a note on the counter expressing how mad she was about the outrageous expenditure. She mentioned that I did laundry too often. Then I started thinking about my contributions to the bill. I do laundry once a week, and I think that is normal. Then I thought about how I like long, hot showers, but no way could my showers add up to that much money.

I told her that she should not leave her bedroom's door open while the air conditioning is on as she has several fans to keep her room cool, and she said she felt claustrophobic when she closed her door. Then she told me that she leaves her window open 24/7 in the nice days when it is 67F outside, while the thermostat is at 79F, and she still did not know how the utilities bill could have been that high.

She said she used to live in an apartment with another three roommates and had never paid that much. I suggested that we would turn the air conditioning off



in that case, and she said that she was perfectly fine with that.

So, if your utility bill is super high, watch your thermostat, and then watch out for open windows. If the reason for your utility bill is open windows, you have two choices: You can give your roommate a lecture on how air conditioning works, or you can save some time and recommend to turn the air conditioning off.

If your roommate is not an engineering major, good luck, and thank your for being an engineer student, specially a computer or electrical one.

- Anonymous