Information Systems & Analytics

News

Welcome to the fifth annual Information Systems and Analytics Department Newsletter.

Hi everyone,
I hope everything is going wonderfully for all of you. We continue to rapidly evolve here in ISA. A lot happened in 2015-16 and we will continue to innovate in the coming year.

This is your annual snapshot summary of the highlights. Feel free to reach out to me is you would like more information about anything happening in ISA.

I spoke with many of you when you were back on campus this year and thoroughly enjoyed catching up. Please let me know if you come back and have time to talk about your exploits. Please send updates via email if you don't get back to this part of the world.
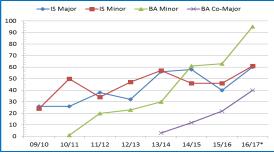
The Year in Review

Wow...where to start? Many of you once again contributed to another great year in ISA. We simply could not do what we do without all the great support we get from our alumni and corporate partners. So let me start by saying THANK YOU all for everything you have done this year!!

We just completed the second year of implementing our formal strategy to grow Analytics and leverage our deep strengths in both IS and Analytics to make both programs stronger. With two more new assistant professors joining us this fall (see page 2), we now have a solid critical mass of Analytics faculty to accomplish this strategy. It's hard to believe that just three years ago during the months of July and August of 2013 we had **zero** tenure track Analytics faculty in the department.

If growth is any indication of success, the chart below illustrates that success of the ISA programs is off the charts. We are considering tactics to control growth in the Analytics programs. In last years update, we acknowledged that we may have over focused on Analytics, perhaps at the expense of our IS enrollments. Careful attention was shifted back to the our IS programs and growth in IS and Analytics are both at healthy levels again.

ISA Graduates By Year * Based on current enrollments

We have a very nice class entering in the fall. The number of declared IS students grew 20% year to year and Analytics numbers grew by nearly 40%. The iS enrollments have not been this high since 2005.

Salaries speak for themselves. The average starting salaries for ISA majors were $59,500 (IS) & $56,500 (BA). For ISA minors, regardless of major, they were $57,300 (IS) & $57,100 (BA). The scary part is we still are not producing enough students to meet the demand for them..

There is some big curriculum news coming (see page 3 for details). First, we are creating a new ISA major that combines our IS and Analytics programs into a single major with two tracks, IS and Analytics. This program clearly illustrates the strategic direction of the department and the growing synergy in our two programs. The proposal is most of the way through the approval process and we hope to officially announce the program early in the fall semester. FSB students will now be able to declare Analytics as a primary major.

Second, we are going to add more cyber security content to our programs. This hole was identified by a faculty task force led by Dr. Gabe Lee based on feedback from alumni and our advisory board partners. Our goal is to start an interdisciplinary Cyber Security Minor.

Third, ISA is playing a key role in the development and teaching of the new integrated FSB core requirement. We are adding a Computational Thinking course and increasing the applied business statistics/analytics requirement from four credit hours to six.

2015/16 was a fantastic initial year for the Center for Analytics and Data Science. Much happened in the last 12 months and the Center has truly taken off. Under the guidance of Dr. Allison Jones-Farmer and her newly hired Assistant Director, Dr. JP Baldwin, I think there will be a lot to talk about relative to the center for years to come. More detail can be found on page 3.

The first cohort completed our new Graduate Certificate in Analytics for Professionals in June and the second cohort is under way. See page 3 for more details.

This year we had CIOs from three top 50 companies in to interact with our ISA students. **Jim Fowler from GE, Patty Morrison with Cardinal Health, and Jeff Smith of IBM**, all shared their time and wisdom. All three are great ISA partners committed to helping us stay on track and recruit and retain ISA students.

Thanks again to all of our partners and alumni for the time, treasure, and talent that you freely share to help us continue to surge ahead. Competition for students interested in programs like ours is increasing so we must stay sharp, current and relevant. You all help us do just that.

Finally, staying current and relevant is not possible without continued external financial support. We become a bit more reliant on external support each year. Every little bit helps the cause and is greatly appreciated. See page 4 for details on how to earmark your Miami contributions directly to ISA.

Faculty News:

Dr. Arthur Carvalho—New Assistant Professor of IS

Arthur Carvalho will join us this fall. Arthur received his PhD in Computer Science from the University of Waterloo, Canada. He comes to us from the Rotterdam School of Management at Erasmus University, Rotterdam, Netherlands., where he received their **Professor of the Year** Award in 2015. He brings a strong technical background to our mix and will contribute strongly to our courses in both programs.

Dr. Fadel Megahed—New Assistant Professor of Analytics

Fadel Megahed will also join us this fall. Fadel received his PhD in Industrial and Systems Engineering from Virginia Tech, Blacksburg, Virginia in 2012. He joins us from Auburn University, Auburn, Alabama where he has been teaching since 2012. Fadel has published more than a dozen journal articles in the last 5 years and adds depth to teaching Management Science and Visualization to our ranks.

New Visiting Faculty

We are also pleased to announce six new visiting faculty joining us in the fall; 1) **Sadaf Ashtari**, ABD from Eastern Michigan University, Ypsilanti, MI; 2) **Dr. Carol McGuire**, PhD in Management from the Case Western Reserve University; 3) **Dr. Rob Morris**, PhD in Physics from New York University, New York, NY; 4) **Dave Scoville**, joining us from Miami's IT Services Group; 5) **Dr. Han Yu**, PhD in Statistics, Florida State University: 6) **Micah Cooper**, currently with Miami's IT services and teaching as an adjunct We look forward to all of them joining us.

Hiring Again In the Fall

We are hiring again this fall. We are hoping to bring in a new Assistant Professor with deep experience in the Cyber Security and Data Communications areas. Stay tuned...

Other Highlights:

Many other exciting things happened as summarized in the bullets below. More details on some of them are provided in the following sections

- Dr. Allison Jones-Farmer received the FSB Service Excellence Award.

- Dr. Jeff Merhout received an Excellence in Career Development Award from the University

- Susan Cramer received the Smucker Effective Teaching Award for Clinical Faculty.

- Experiential projects with real clients were done in three classes, Clients included Chamberlain Group, Miami University Libraries, Miami Office of Enrollment Management, The FSB and others.
  - ◊ ISA 406 IT Project Management
  - ◊ ISA 491 Data Mining For Business
  - ◊ ISA 496 Business Analytics Practicum

- The Center for Analytics and Data Science was launched: corporate partnerships were formed and the first experiential projects completed. More on page 3.

- We completed the first cohort of our Graduate Certificate in Analytics for Professionals program. The second cohort is underway. More on page 3.

- The PWC led case study in Dr. Jeff Merhout's Information Risk Management course, ISA 305, was again well received and a great experience for IS students.

- Our career day in the core IS course was again a big hit with students both semesters. Thanks to everyone who pitched in. Dr. Jeff Merhout is already organizing the events this year If you are interested in helping out, reach out to him. (Merhoujw@miamioh.edu).

- To recruit IS students, we hosted a panel discussion on careers in IS in the spring. Alumni from EY, Cardinal Health and GE participated. Nearly 40 first and second year students attended.

- Twelve ISA students from the fall Data Mining Class passed the SAS Predictive Modeling Certification Exam in January.

- We held our fifth annual ISA recruiting event in the fall that was attended by fourteen of our Advisory Board companies. The event continues to be a success for our students and corporate partners.

- We awarded $9,800 in scholarships to ISA students at our spring awards event. Thank you to everyone who contributed!!

Center for Analytics and Data Science Completes Successful First Year

The first year for the Center for Analytics and Data Science (CADS) was an exciting one. Dr. Allison Jones-Farmer has poured a ton of energy into getting the center off on the right track. Below are some highlights. For more information, visit the CADS website

CADS is halfway to its funding goal of 10 corporate partnerships. Sponsors make a three year commitment at $25K per year to fund center activities and of course get to work with a lot of great Miami students and faculty. If you are interested in partnering, contact Dr. Jones-Farmer. The first five formal partners are

> All State, IBM, Cardinal Health, EY, & The Shesky Family Foundation

Using the initial funding from Miami combined with the partnership funds, the center hired students and completed its first interdisciplinary, experiential project for the Butler County Land Bank (more details in the next column.) They also hired students to develop the center's logo, web presence and marketing materials. The center also helped to land several more focused projects that were done in upper level ISA courses such as the Business Analytics Practicum.

Another big CADS effort was the DataFest competition held the last weekend in April. Over fifty students from three different universities competed in the three day data hackathon to try and squeeze the best insights from a data set they had never seem before. Corporate judges from CADS partner companies selected the winners.

Dr. JP Baldwin was hired and began in July as the Assistant Director of the Center. We look forward to JP's impact moving forward as we focus on developing processes and more formal documentation of center activities.

Graduate Certificate in Analytics for Professionals Graduates First Cohort

The first cohort of eight students completed the Graduate Certificate in Analytics for Professionals in June. Students reported learning a lot in the program and applying it in their current roles. Two are moving into new positions as a result of the program.

The program consists of four courses jointly taught by ISA and Statistics faculty. The courses, listed below, are 10 week hybrid courses delivered mostly online with two weekend campus visits during the program.

1. Introduction to Predictive Modeling
2. Managing Data for Business Analytics
3. Statistical Programming and Data Visualization
4. Predictive Analytics and Data Mining

The second cohort of 10 students began its year through the program in June as well.

CADS Students Help the Butler County Land Bank

Last fall CADS hired students and began work on its first interdisciplinary project by partnering with the Department of Political Science and the Butler County Land Bank. Students from Political Science, Economics, Geography, Information Systems, Analytics, and Computer Science worked together to help the Land Bank analyze the impact of the removal of over 500 blighted properties in the Hamilton and Middletown areas.

The project was a great experience for both the students and the Land Bank and was mentioned in both the July 14 and July 18 editions of the Hamilton Journal News. The Land Bank has just received $1.8 Million in additional funding.

Faculty and Curriculum Investments

Thanks to all of you who made gifts in the past year, especially Patty Morrison (Cardinal Health) and Dave Meyer (EY). Much of our external funding is used for faculty and curriculum development. These efforts are almost predominantly funded with external funds. Without them we could not continue to do what we do better...

Information Systems and Analytics change at a pace far different than other business disciplines. It is an ongoing effort to keep faculty knowledge and curriculum content where they need to be. Believe it or not, there is very little university money allocated to accomplish these initiatives. We are keeping pace thanks to external giving. Some externally funded efforts from the past year were:

Dr. Jeff Merhout developed and is now delivering our IT and the intelligent Enterprise course online for the first time. Many faculty kicked in to develop video content for the course.

Dr. Allison Jones Farmer and **Dr. T.M. Rajkumar** developed and delivered two course for the new Grad Certificate in Analytics for Professionals,. Raj did Managing Data for Business Analytics and Allison tackled Predictive Analytics and Data Mining

Dr. Maria Weese, Dr. Zafer Ozdemir, and Dr. TM Rajkumar attended Edward Tufte visualization workshops in Columbus, OH.

Susan Cramer attended the Pearson Business Statistics Workshop in Chicago

Program and Curriculum Highlights

As usual, many program and curriculum changes are rolling out in the coming year. We should soon have a primary major in Analytics. We are also responsible for two major pieces of the new business core and adding Cyber Security content.

Information Systems and Analytics Major

Our two programs in IS and Analytics continue to increasingly overlap. We also feel a strong need to offer a primary major in business analytics. As a result, hopefully by early in the fall semester, we will get final approval for our next big change. Our two majors will combine to become an Information Systems and Analytics Major.

The new ISA major will have an Information Systems track and an Analytics track. Students will self select into a track. Essentially we merged the IS major and the Business Analytics co-major into one two-track major. The core of this new major requires all ISA majors to take both database management and programming, currently in Python. The tracks resemble very closely the current IS Major and BA co-major with a few enhancements. As soon as it is official, the curriculum will be posted on the ISA website

More Stats/Analytics for Future FSB Grads

Two big changes to the FSB core are being led by ISA. First the four hour Business Statistics requirement (ISA 205) has evolved into a six hour requirement delivered in two three hour courses. The first is a basic introductory business statistics course that could be replaced with AP statistics. The second, Introduction to Business Analytics, does exactly as the name implies. Building on the basic Statistics knowledge from the first course, it introduces analytical techniques and methodologies commonly used in data driven business decision making.

Programming Requirement for all FSB Grads

Beginning this fall all FSB freshmen will take an eight credit hour block of four integrated two hour courses. The courses are

1. Into to Business Decision-Making and Execution
2. Foundations aof Business Communication
3. Creativity, Innovation and Entrepreneurial Thinking
4. Intro to Computational Thinking

All four courses integrate around a data driven problem solving case using corporate data. ISA will design and deliver the Computational Thinking class. The class will introduce thinking computationally through a very high level introduction to programming constructs.

Students in the computational thinking class will learn basic programming constructs through hands on projects and exercises. The business applications of programming logic will be demonstrated through software examples of massaging the big data from the case into a form more consumable in a decision making process. Students will use this more consumable data for the case.

New Security Focus in ISA Curriculum

We identified Cyber Security as a key under covered area in our curriculum. To right that wrong we are in the early stages of developing courses and programs in cyber security. We will launch this effort by hosting a Cyber Security Symposium this fall. Watch for more information about this initiative in the coming months.

Looking Ahead to 2017

More good things to come...

- **Continue to roll with CADS**

- **Flesh out and begin to implement our strategy for Cyber Security curriculum.**

- **Increase experiential learning opportunities for ISA students**

- **Mentor our new faculty and hire our next future leaders in the department**

- **Selectively invest in faculty training and opportunities to expand our knowledge and expertise in Information Systems and Analytics.**

- **Continue to build strong corporate partnerships that will help us be the best at what we do.**

ISA Student Recognition

Best BA Major
Rebecca Zeldenrust

Best IS Major
Abdulrahman-Zubair

Best BA Minor
Katherine Moody

Best IS Minor
Joshua Mayes

Scholarship Recipients

Cardinal Health
Adam Levitt
Seth Levitt

Dawley
Nicholas Berry

ISA Advisory Board
Valerie Bovè
Gabriella Dubsky
Shane Haney
Bryan Roberson
Clay Sowers

Macy's
Katie Inman

SAS Data Mining Certificates

Matthew Agustin	Stuart Fisher	Brian O'Donnell
Allison Allen	Ryan Forsythe	Madalyn Renzi
Yang Bai	Jesse French	Jessica Robinson
Morgan Beagle	Nancy Gillen	Jacob Smith
Keenan Blache	Erik Hansen	Thomas Sowers
Robert Bodner	Ian Huron	Stephen Spaeth
Adam Bodrick	Brian Jong	Daniel Stewart
Tara Bramble	Ryan Kana	Wenwen Sun
Yiping Cai	Madison Kawiecki	Julieta Tijero
Keith Cartwright	Spencer Keebler	Sarah Tapogna
Hungyu Chin	Riley Kelly	Matthew Winter
Justin Cohen	Kelly Krumpak	Yifan Wu
Conor Conway	Kelly Leon	Jingwen Xie
Nicole Cooperrider	Yanyan Lin	Mengran Xue
Lauren Curtis	Keaton Lovas	Rebecca Zeldenrust
Tyler Davis	Katherine Mannebach	Wentianfu Zhang
Megan Deighton	Matthew McCans	Jieyu Zhou
Lei Ding	Michael McCaughey	
Cristina Favia	Katherine Moody	

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Giving Back to ISA

To continue to evolve ISA programs and increase both the quality and quantity of our pipeline of ISA students we now rely on financial support from outside the university for success. To continue growing enrollments and building out top shelf programs, we need your support. Outside gifts go to activities very underfunded by the university and include:

- *Faculty training on emerging tools and techniques in both IS and Analytics*
- *Continuing programs such as speakers and meet & greets which help market our programs to both high school students and Miami underclassmen*
- *Increasing scholarships available to ISA students*
- *Curriculum and course development efforts*

MAKE A GIFT

*When you give to Miami, **please consider directing your gifts specifically toward the ISA department**. Below is a URL to earmark your Miami gift to ISA online. Or look for the icon to the left on the ISA department web page.*

https://securelb.imodules.com/s/916/flah-2-col.aspx?
sid=916&gid=1&pgid=6010&cid=11236&dids=98&bledit=1

If you prefer you can mail your gift directly to me at the address at the right. Please make the check payable to Miami University and write Information Systems & Analytics on the memo line.

Thanks in advance for your support. If you have any questions about the department's funding priorities, please contact me directly at 513 529-4835 or benamajh@Miamioh.edu.

FARMER SCHOOL OF BUSINESS

End Notes

We firmly believe that we have some of the best undergraduate programs in the country and work hard to keep it that way. In fact they are getting better.

We will keep the news flowing. Please share some of your experiences back with us. Some of my favorite moments are opening emails or getting calls and drop in visits from former students and learning of their successes. Please share those with us.

Any contributions of your Time, Talent, or Treasure (TTT) to help us continue to get better, won't go unnoticed and thank you to all who are already contributing. Feel free to reach out if you have any ideas or feedback.

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